

The Newell
Young Man's Companion,
CONTAINING,
A Compendious English Grammar.

INSTRUCTIONS to write Variety of Hands,
with COPIES both in Prose and Verse.

LETTERS on COMPLIMENT, BUSINESS,
and several other OCCASIONS.

FORMS of Indentures, Wills, Testaments, Letters of
Attorney, Bills, Receipts, Releases, Acquittances, &c.

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To which is added a Description of the several Counties of England and
Scotland, their Produce, Market-Towns and Market-Days.

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Being Directions to cure and prevent most Disorders which are
incident to Horses.

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With Directions for Colouring Maps, and Gilding with Gold and Silver.

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A perpetual Almanack that shews the Day of the Month for ever.
Tradesmen's Method of marking their Goods for Sale: A Table shewing
the Hour of the Day by a walking-stick divided into ten Parts: And a

List of the Stages between LONDON and EDINBURGH.

The EXPORTS and IMPORTS of GREAT BRITAIN to and
from Foreign Nations. A List of ENGLISH Manufactures, &c. &c.

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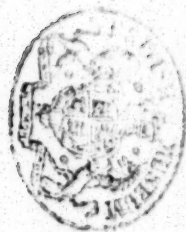
An English Spelling Dictionary.

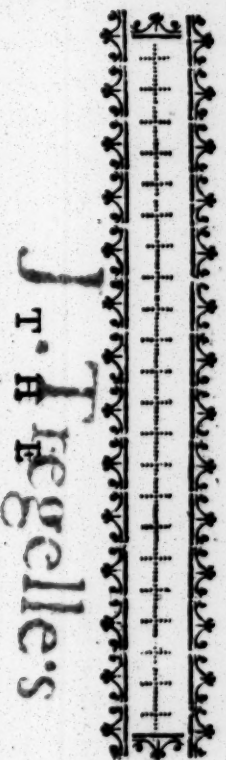
The whole calculated to qualify Persons for Business without the Help of a
Master, and illustrated with a Map of the World.

By THOMAS WISE, ACCOMPANT.

The EIGHTH EDITION, greatly enlarged and improved.

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C O N T E N T S.

A Compendious English grammar	Page 1
Directions for writing	11
How to make a pen	15
A receipt for the best black ink	16
To make London ink-powder	ib
To make Japan or shining-ink	ib
A powder ink to rub on paper and write on	17
How to make red ink	ib
To keep ink from freezing or moulding	ib

Copies for Writing.

Single-line copies in prose, in an alphabetical order	ib
Copies in verse	15
Of the points or stops, and other marks used in writing and reading,	26
with their characters, places and significations	28
Of abbreviations	31
To write on paper gold letters, called shell-gold	ib
How to write secret letters	ib
How to write both blue and red letters at once, with the same ink	ib
and pen, upon the same paper	32
A poem in praise of writing	ib
A curious collection of letters on compliment, business, and several o-	36
ther occasions	ib
A liquor to wash old deeds and writings, &c. whereby they are rendered	56
as legible as when first wrote	ib
To take blots of ink out of paper	ib
To clean oil paintings	ib
To make varnish for oil-paintings	ib

CONTENTS.

Precedents in Law and Business.

Supercriptions for Letters

Directions for the beginning of letters

Of wills and testaments

Form of a will

Another will

Observations concerning wills and testaments

The form of a letter of attorney, to execute a particular business

A form of a revocation of a letter of attorney

The form of an indenture

A letter of attorney from a seaman

A bond and the condition

A condition to stand to the award of arbitrators

The form of an emphyreage of award

A letter of licence to a debtor

A bill of sale

A general release

Of wives, children and servants

Of sons and daughters

Of servants

57
58
59
ib
61
ib
62
63
64
ib
65
66
67
68
70
71
ib
73
74

Forms of Receipts, Bills, Notes, &c.

Various forms of acquitances, when an apprentice or servant receives money for the use of his masters or employers

ib

Various forms of acquitances, upon receipt of money, by masters and men of business

76

Promissory notes by bankers, apprentices and servants

77

Promissory notes for a man's self

78

A bill of debt

79

Another

ib

Promissory notes

80

Arithmetic in all its branches

82

The mensuration of plain superficies (or flat measure) such as board, glass, wainscot, painting, and the like

195

A short and easy method of book-keeping, after the Italian manner

240

Accompts ready cast up for buying or selling any commodity by number, weight or measure

231

The use of the tables, with examples

204

A compendium of geography

241

A table shewing the parallel of latitude, the breadth, and the length of the day in every climate

242

A description of the world

243

C O N T E N T S.

A description of Europe	247
Asia	256
Africa	260
America	263
British islands	265
An account of the several counties of England, with their produce, market-towns and market-days	266
The management of horses	297
Rules for buying horses	ib
Rules for travelling; with directions for preventing and curing the diseases horses are incident to on the road	297
How to save a horse's back from galling	301
On the navel-gall	302
How to cure a crush on the navel-gall	303
Of swelled legs	ib
Of the scratches	304
Of gravel in the hoof	305
On a clap in the back sinew	307
Of strains in the fillets	308
Of windgalls	ib
Of colds	309
Of scouring or immoderate purging	311
Of a cold in the head	312
Of a hurt on the eye	313
Of a swelled neck	ib
Of the gravel	314
The art of painting in oil	315
A catalogue of the several colours used therein	ib
How to make size for gilding both with gold and silver	317
The art of working oil colours, and painting timber work, after the manner of common painting	318
What colours are most suitable, and set off best with each other	320
Of some colours that arise from mixture	321
How to gild with gold on an oily size, either letters or figures, &c.	322
How to gild with silver	324
Some directions for mixing of oil colours for divers purposes, in the art of colouring prints with oil colours	ib
Colours for facets	ib
— for hair	ib
— for garments	325

C O N T E N T S.

Colours for trees	326
—for grounds behind a picture	ib
—for ground in a landscape	ib
Sky colours	ib
The whole art and mystery of colouring maps and other prints in water colours	327
Of the practice of colouring maps	331
Directions how to lay on mezzotinto prints on glass	ib
Exports and imports of Great Britain to and from foreign nations	332
Alphabetical list of the English manufactures, with the best markets for the purchase of them	338
Tables shewing the value of Portugal pieces, &c. in pounds, shillings and pence sterling	341
An account of the principal foreign coins	343
A table shewing the hour of the day by any stick, or walking stick, divided into ten parts	344
A table shewing the Dominical letters from 1771 to 1800	346
Tradesmen's method for marking their goods for sale, with specimens	ib
A rule to find when Shrove-Tuesday, Easter, Whitsunday, and Holy Thursday shall happen	347
A Table shewing what day of the week begins any month for ever	348
A perpetual almanack that shews the day of the month for ever	349
A table of the sun's rising and setting	350
A list of the stages betwixt London and Edinburgh	351
An English spelling dictionary.	352

G. V. 1771
 1772
 1773
 1774
 1775
 1776
 1777
 1778
 1779
 1780
 1781
 1782
 1783
 1784
 1785
 1786
 1787
 1788
 1789
 1790
 1791
 1792
 1793
 1794
 1795
 1796
 1797
 1798
 1799
 1800



A COMPENDIOUS

ENGLISH GRAMMAR.

GRAMMAR, in any language, is that art or science that teacheth the true and proper use of letters, syllables, words and sentences. And tho' several rules and observations, applicable only to one particular speech or tongue, are different from those of another, yet such as concern the general relation that things have to their modes, qualities, motions or passions, are exactly the same in all the languages in the world; for any name, quality, &c. in the English language, is the same in any other, though expressed in a different term. From whence may be perceived, how far the generality of people are mistaken, in the notion they have, that it is absolutely necessary for all young persons to read the Latin or Lilly's grammar, before they can attain to a right understanding of the English: for all the grammars of the Latin tongue are mostly employed to teach the various terminations, &c. of the flexions, modes, formations, and words of that language, a matter which no way concerns the English. But there are some few general rules in that and all other grammars that may be applied to th: English, or any other language whatever.

I shall not here enter into a critical dissertation upon each letter, divide them into vowels, consonants, mutes, liquids, &c. nor shall I divide the language into eight parts, as is generally done, but into four, viz.

Names.	Affirmations.
Qualities.	Particles, or the manner of words.

Names express the things themselves, *i. e.* every thing that is the object of our several senses, reflection, and understanding: which conveying some certain idea or image to the mind, want not the help of any other word to make them understood: as when we hear any one say, *a man, a horse, virtue, vice*, &c. we perfectly understand what he means.

Names express the things themselves; you cannot therefore put the word *thing* after them thus, *man thing, virtuous thing*, &c. without making nonsense.

They admit of *a* or *the* before them, and *an* when they begin with a vowel.

There are two sorts of Names: Common Names are such as agree to, or express the whole species; as the name *horse* signifies *my horse, your horse*, and all the *horses* that are.

Proper Names distinguish particulars of the species from each other, as *Cæsar, Pompey, Calo*, distinguish those men from the rest of mankind. The same holds of the proper names of *cities, towns, mountains, rivers, countries*, &c.

Qualities are the manners of names, or things expressed by them, as *good, bad, round, square*, &c. For example: the being of *wax*, is the substance of *wax*, or *wax* itself, without regard to any form or colour, and is what we call the name, the roundness, squareness, &c. of the figure are the manners of the being; as to be ignorant or knowing, are the manners or qualities of our being; thus we say a *good, bad, black, white*, &c. horse; *horse* is the name, and *good, bad, black, white*, &c. are the qualities of that name.

The 3d general head is the Affirmation, under which term the existence, action, or passion of the subject is affirmed, as *the black horse runs, the common sewer sings, the young child cries*. Here *black, common* and *young* are qualities, as expressing some mode or quality of their subjects or names, *horse, sewer, and child*; and the words

run, *sink*, and *cries* denoting the several actions of their subjects or names. It is usual to call these by three different appellations, viz. *substantive*, *active*, and *passive*; those that are found to signify the being or existence of any thing, as *I am*, &c. are termed *substantives*; those that signify the acting or doing of any thing, as *I see*, &c. are termed *actives*; where passion or the suffering of any thing is signified, as *I am seen*, &c. they are *passives*.

The 4th class of words I call by the general name of Particles, which are occasionally made use of to make the sense of the speaker more full, clear, and intelligible, by expressing the manner, or other circumstances of the other words, either by connecting them together, or shewing the manners or qualities of them viz. *John and Mary strive earnestly*; here, *and earnestly* are *particles*; and joining the two names *John, Mary*; *earnestly* shewing the mode of their striving.

A substantive has what is called two *numbers*, the one expressing only some one single thing of a sort or species, as *a man*; the other all above one, as *men*; viz two, three, twenty, a thousand, &c. and this is called the plural number. The singular number is commonly distinguished by *a, an*, or *one*; as *a horse, a man, an image, an idiot, one child, one wife*, &c. The plural number is generally known by the words terminating with an *s*, or *es*; but the singular never, but in such as have a plural termination, tho' they have a singular meaning; as, *arm, arms, horse, horses; king, kings; bone, bones*, &c.

There are some exceptions to this general rule, but they are few in comparison to those that it comprehends; such as *ox, oxen; man, men; brother, brethren; cow, cows, or kine; mouse, mice; foot, feet; tooth, teeth; penny, pence*, &c. Singulars which end in *s* or *se*, have their plurals ending in *es*; as *wise, wives; self, selves; knife, knives; wolf, wolves*, &c. And though most words, whose singulars end in *ff*, follow the general rule foregoing, as *muſſ, muſſes*, &c. yet *ſaff* makes *ſaffers*, according to the latter rule.

Some terminate alike in both numbers, as *one sheep, ten sheep, one swine, ten swine, &c.*

There are some words that admit of no singular number, such as *asses, bowels, creases, &c.* And on the contrary there are a great many that want the plural number; such as proper names of men, women, places, creatures and things: as also their virtues, vices, habits, and abstract qualities, the generality of grains, spices, herbs, drugs and liquids, as, *wheat, rye, pepper, ginger, grass, air, blood, milk, &c.*

To the English language there belong three genders, which in conformity to the custom used in the Greek and Latin tongues, may be called *masculine, feminine and neuter*; the *masculine* comprehending all males, *feminine* all females, and the *neuter* all things without life; and these are thus distinguished by these terms, *he, his* or *him*, for the *masculine*; *she, her, hers, &c.* for the *feminine*; and *it* for the *neuter*, but the quality remains the same, and is as applicable to males as females, or things without life, called *neuters*, as a *good boy, a good girl, a good knife, &c.*

Some *feminines* are formed by changing the termination of the *masculine* into *ess*, as *count, counsellor; duke, duchess; heir, heiress; lion, lioness, &c.*

The English language has three persons, *viz. I, the first; thou, the second; he, she, it, the third*, in the singular number; and *we, ye, you, those*, in the plural; to which may be added *who, whom, or what*. These distinctions are absolutely necessary, as appears from the nature of speech, which is always employed about the person or persons, then immediately speaking, denoted by the characteristic *I* or *we*; the person or thing spoken to, by *thou, ye* or *you*; or the person or thing spoken of, by *he, she, it, they, &c.* This is to be understood when they stand before an affirmation, as *I write, thou writest, he writeth*, but in compound sentences, and after affirmations, they are changed into *me, thee, him, &c.* as, *I can prove this horse belongs to me, thee, &c.*

All qualities in English are the same in both numbers, as a *good man, ten good men, &c.* and unless some name be

joined with it, to determine what quality is to be understood of, it can never make the sense complete; as, *good, bad, &c.* have no meaning till applied; as *a good boy, a bad horse, &c.*

When two names are compounded into one word, the first becomes a quality, as *sea-fish, gold-cup, &c.*

My, They, Her, Our, Your, Their, are called *personal possessives*, and are only used when they are joined with names, as, this is My horse, My coat, My book, &c. but when the sense is not expressed immediately, but understood, or a question is asked, they are changed into Mine, Thine, Hers, Yours, Theirs; as, This knife is mine; that is, This is my knife; Whole knife is this? Mine, or, It is my knife, &c.

To qualities belong also increase or diminution of the value, goodness or virtue of the names to which they are joined; and these are generally formed by adding *er* and *ess* to the plain simple word itself; as Fair, Fairer, Fairest; though sometimes they are made by adding More or Most to the simple word, as Fairer or More fair, Fairest or Most fair; reading and observation will quickly teach any person where to introduce those in the most advantageous place. These four following are irregulars; Good, Better, Best; Bad or Ill, Worse, Worst; Little, Less, Least; Much, More, Most.

Instead of the various terminations and declensions of the other languages, the English use *a or the, of, to, by, from* or *with, &c.* to distinguish the several circumstances of the Name both when it is alone, and also when it is joined with the Quality in both numbers: as,

Singular number.

Plural number.

A or the man

The men

Of a or the man

Of the men

To a or the man

To the men

By, from or with a or the man

By, from or with the men

Singular

Plural

A or the good horse, &c.

The good horses, &c.

Of a or the good horse

Of the good horses, &c.

We have already taken notice that the third class of words is the affirmation, and what its offices is; we shall only here observe, that it has *two numbers, time and person* belonging to it, by which the being, action or passion of the subject or name is declared or affirmed; for the expressing the true state of the time, there is what are usually called *auxiliaries*, from or by which the times of other affirmations are expressed, there being only the *present* and *the passing time* naturally arising from the different endings of the words themselves; that is, the present and the passing, or past time, as *love* the present; and *loved* or *loved* the passing time. The present time, or the instant in which any thing is actually performing, &c. is distinguished by the words *do*, *doest*, or *doth*, for the singular number; and *do* only for the plural, with the proper personal signs, *I, thou, he, we, ye, they, &c.* The passing time is an imperfect manner of expressing, and intimates so much, having the sign *did*, or the termination *ed*: the past time shews the action complete, by affirming something with the sign *have*; there is also what is called the *preterpluperfect tense*, and has the sign *had* affixed to it; the other is the *future tense*, that affirms something *shall* or *will* be hereafter. And tho' there are really but three proper distinctions of time, *viz.* the present, the past, and the future, yet as our language, as well as others, hath various terminations, or manners of expression, we shall insert them; as to the distinctions of what is commonly called *moods*, it is undeniably certain that they may be denoted as variously, and be as numerous as the particular circumstances require.

As what is called the *potential* and *subjunctive moods* are an undeniable proof of differing only by some accidental signs; for which reason they are not here enumerated, but called the *1st*, *2^d*, *3^d* and *4th* mood. The first declaring or making some positive assertion about, or relating to the subject, or name. The second having only one tense and five persons, and is employed wholly about commanding or ordaining, praying or permitting something to be done without any specification of time. The third may be *1st*

riously circumstanced, according as it has its expletives adjoining. And the fourth expresses the action barely and indefinitely as to time. The two auxiliaries supply all others, with those tenses or times which they naturally have no proper termination or distinction for, viz. *to have*, by whose assistance all actives are formed, or such as import doing something; and *to be*, from which all passives are formed, that is, such as import suffering or bearing something done to the subject.

The *first* or *indicative* mood.

Present tense.

Singular

I—have
Thou—hast
He—hath

Past tense.

Singular.

I—had
Thou—hadst
He—had

Future tense.

Singular.

I shall or will have
Thou shalt or wilt have
He shall or will have

Present tense.

Plural.

We—have
Ye—have
They—have

Past tense.

Plural.

We—had
Ye—had
They—had

Future tense.

Plural.

We } shall or will have.
Ye }
They }

Some make other distinctions of time but as they are only a coupling of these together, this short essay will not permit the digression; such as *I have had, I had had, &c.*

The *second* or *imperative* mood.

Have thou. Let him, her, it have. Let us have.
Have ye. Let them have.

The *third* or *subjunctive, potential, &c.* mood

Is always distinguished by adding some sign of wishing, power, &c. as *I may or can have; I might, could, should or ought to have, &c.*

The *fourth* or *indicative* mood

Is always distinguished by the sign *to*; as *to have*, *to love*, &c. from this mood that quality called a *participle* is formed, importing possession; as *having*, *being*, *loving*, &c.

The *first* or *indicative* mood.

Present tense.	Present tense.	Past tense.	Past tense.
Singular.	Plural.	Singular.	Plural.
I am	We are	I was	We were
Thou art	Ye are	Thou wast	Ye were
He, she, it is	They are	He was	They were
Future tense.		Future tense.	
Singular.	Plural		

I shall or will be We } shall or will be.
Thou shalt or will be Ye }
He shall or will be They }

There are other expressions, called tenses, compounded of *have* and this verb; as, *I have been*, &c. *I had been*.

The *second* or *imperative* mood.

Be thou. Let him, her, it be. Let us be. Beye. Let them be.

The *third* or *subjunctive*, &c. mood.

That I may, can, might, would, could, should or ought to be, &c.

The *fourth* or *infinitive* mood.

To be, to have been. Being.

From these all other affirmations regular and irregular are formed and completed, to express every possible circumstance of time, action, or passion: as for example.

First Mood.

I love, I have loved, I had loved, I shall or will love

We We We We

Thou lovest or dost love Thou lovedst or didst love

Ye love or do love Ye loved or did love

Thou hast loved Thou hast loved

Ye have loved Ye had love

Thou shalt or will love

They shall or will love.

Second Mood.

Love thou; love he, she, or it, or let him, her, or it love;
love me, or let us love; love ye, love they, or let them love.

Third Mood.

I, thou, he, she, &c. may, can, might, could, &c. love.

Fourth Mood.

To love, loving, &c.

From what has been said, it is observable, that the natural formations are made successively thus: first, *something is affirmed by the first person singular*; as I love, thou I loved, or did love, then I have or had loved; and afterwards shall or will love. But there are some verbs that are irregular, and instead of ending in *ed*, in the 2d and 3d tenses have particular endings of their own; as I bear, bere, have born; I beat, have beaten; I begin, have begun; I behold, have beheld; I bend, have bent; I bind, have bound; I bite, have bitten; I blow, blew, have blown; I bleed, have bled; I breed have bred; I bring, have brought; I break, broke, have broken; I am born, was born, have been born; I buy, have bought; I catch, have caught; I chide, chid, have chidden; I chuse, chose, have chosen; I come, came, am come; I cleave, clove, have cleaved; I cut, have cut; I creep, crept, or crept, have crept; I crow, crew; I dare, durst; I deal, dealt; I do, did, have done; I drew, have drawn; I dream, dreamt; I drink, drank, have drunk; I drive, drove, have driven; I do, get, did eat, have eaten; I fall, fell, am fallen; I feed, fed; I feel, felt; I do fetch, did fetch; I fight, have fought; I find, found; I fling, flung; I fly, flew, am flown; I fly, fled, am fled; I forget, forgot, have forgotten; I get, got; I gave, have given; I go, went, am gone; I grind, ground; I grew, grow, am grown; I hang, hung, have hanged; I hear, heard; I hide, hid, have hidden; I hold, held; I keep, kept; I know, knew, have known; I lead, led; I learn, learnt; I leave, left; I lend, lent; I do let, did let, have let; I lie, have lain; I lie, lied; I lose, lost; I make, made; I mean, meant; I meet, met; I miss, mist or missed; I move,

have owed; I do, did, have put; I do, did, have read; I ride, have ridden; I ring, rung; I rise, rose, am risen; I do, did, have run; I say, said; I see, saw, have seen; I seek, sought; I sell, sold; I send, sent; I do, did, have shed; I shine, shone; I shoe, shod; I shoot, shot; I shrink, shrunk; I sing, sang or sung; I sit, sat or sate; I stay, flew, have staid; I sleep, slept; I slide, slid; I sling, slung; I smell, smelt; I smite, smote, have smitten; I speak, spoke, have spoken; I spend, spent; I spill, spilled, or spilt; I spin, spun; I spit, have spit or spitten; I do, did, or have spread; I spring, or sprung; I spit or spat; I sowe, sowed, have sown; I stand, stood; I stink, stunk; I strike, struck, have stricken; I string, strung; I swear, swore, have sworn; I do or did sweat, have sweated; I sweep, swept; I swim, swam, have swum; I take, took, have taken; I teach, taught; I tear, tore, have torn; I tell, told; I think, thought; I thrive, throve, have thriven; I throw, threw, have thrown; I tread, trod, have trodden; I understand, understood; I weave, wove, have weaved; I weep, wept; I win, won; I am, was, have been willing; I work, wrought; I wring, wrong; I write, wrote, have written.

The fourth part is here universally called *particles*, under which denomination, all those small words that tie or unite the others together, or that express the modes or manners of words are signified, and which usually, by the common grammarians, are called *adverbs*, *conjunctions*, *prepositions*, and *interjections*. From the due use and connection of these four parts, are formed sentences; and from a number or multitude of sentences, arise regular discourses, speeches, &c. A sentence consists of three words at least, by which some idea of the mind is expressed; as *lying is hateful*. And this is called a simple sentence, wherein the name or thing is expressed but once, and something is affirmed of that subject: first, its being, and next its mode of being, or else some action of the subject passes upon another, or at least is understood so to do. All others are compounded, wherein either the same subject or name is repeated, or different ones affirmed something of, &c. The name or-

dinarily is placed before the affirmation, and is always really expressed or understood so to be; as, *John loves Mary*. And here it must always be observed, that the same number and person, that the name whose action or passion is intended or expressed by the affirmation is, the same must the affirmation itself be; as in the example above the name *John* is the third person singular, and so is the affirmation *loves*; and in the following sentence, *men love your wives*: the name *men* is the second person plural, so is the affirmation. *We admire learning*: here *we* is the first person plural, and *admire* is so also: which is to be observed of all others.



DIRECTIONS for WRITING.

I Shall endeavour to make this performance useful to those who desire to write well for common business, as also to such teachers who want to be instructed in the first principles of the art of writing. And therefore I shall not trouble you with a long, unnecessary account of the dependence of all the letters in the several alphabets upon one another, that being easily discovered (so far as is material) by any one who knows but the fundamental letters of each hand, which I shall only mention, and leave the rest to your own observation.

The several sorts of hands now in use among us, may be divided into two branches, viz. those of absolute use for business, and those which are only ornamental. Those of absolute use may be reckoned six, the round, and Italian, in which most of the common affairs of trade, and the ordinary business of life, are written by all Europeans; the engrossing, square text, court, and chancery hands, in which all the various business of the law is generally transacted, and recorded. The other hands, viz. the old English, the Roman and Italian prints, the German text, &c. are only made use of by way of ornament or curiosity in

some particular cases, and therefore the writing of them is not esteemed of such necessity to those who are intended for common business.

The principal things to be aimed at in order to write a hand well, are these two; first, To get an exact notion or idea of a good letter, which may be done by a frequent and nice observation of a correct copy; the other is, To get such a command of hand, as to be able to express, with the pen, that idea upon the paper, which is attained by constant and careful practice after good examples; the learner being first informed of the most necessary things to be observed in his practice of that hand he intends to be master of. I shall therefore,

I. Mention some things to be generally observed in writing.

II. Give some directions for holding the pen.

III. Shew the nature of the pen, with particular rules and proportions for writing each hand.

And fourth, Lay down some proper directions for young persons, when they first enter upon business, in order to bring them to write a good hand with expedition, and to make them place figures after the most beautiful and practical manner.

I. The essential properties of a good piece of writing are a due proportion of the character throughout the whole; a just distance between the letters themselves as well as the words; with a natural leaning or inclination of the letters one to another: a clean, smooth stroke, performed with a masterly boldness and freedom, without which, the most regular piece is like a dead corps whose features, tho' they may be exact in symmetry, yet want that spirit which only can render it an object both valuable and delightful.

The proportion of the several letters in most hands, is generally regulated by the *o* and *n*, therefore let the making of them be first carefully practised, and then the other

letters which come from them, all which must be of the same width and fulness of strokes as they are of.

The proportion and shape of the letters in any hand, ought to be the same, whether they are written in a large or small size; therefore, let every hand be first learned in a large character, which will not only sooner fix the idea of a good letter in your mind, but also give you a greater freedom, and in a shorter time, than writing to the small will. It is certain, that the letter is always contained in the greater; and he that attains to write any hand large may soon write it as small as he pleases.

Let all strokes, which are the constituent parts of a letter; or, (as some call them) the body-strokes, be made with the full pen, and of the same thickness one with another as near as is consistent with the nature of the hand you are writing.

Let all the strokes which join the constituent part of letters, or the letters themselves together, be made with the corner of the pen, and as fine as the hand will admit of; which strokes must always have some proportion to the body-strokes, and must be thicker, or thinner, according as the character is lesser, or greater: turn not your pen, neither alter the position of your hand, but let it move with a ready, easy motion, and perform every letter without catchings, and convulsive flutterings.

Let the fine-strokes answer one another, in a kind of opposition, and in many hands run parallel.

Let all the letters which have not stems above or below the line, be even at top and bottom. Let those which have stems above the other letters be equal in length to *i*, except *j*, and a few other letters in some hands. Let those which have stems below the line, be equal in length to the *j*, some few excepted, which may be seen by the alphabets of the several hands in the examples.

Let the capital letters be equal in height to the little *i*, and a small matter stronger.

Let the distance between words be double to that between letters.

Let the lines be of such a distance that the stems of the letters may not interfere one with another; to prevent which they must be at least twice the length of an ascender.

II. The next thing is, directions for holding the pen, and sitting to write.

Hold your pen between the two fore fingers extended, almost straight, and the thumb bending a little outward, and in your right hand, with the hollow side of the pen downwards, and the nib sit upon the paper; let it rest between the two upper joints of the fore finger, and upon the end of the middle one, about an inch from the nib of the pen, the end of the little finger, and that which is next to it, bend in towards the palm of the hand, about half an inch distant from the end of the middle finger.

Let the book or paper lie directly before you, and your hand rest only on the top of your little finger; let no other part of your hand or wrist touch the paper or desk; rest your arm, very highly between the wrist and elbow. Keep your body upright, and from touching the desk; let your elbow be almost close to your side, and the pen pointed towards the outer part of your left shoulder; so that a line being drawn from the inner part of the arm, at the bend of the elbow, to the nib of the pen, will be nearly at right angles with the line you are writing upon. And for the slope-hands, turn your left side a little towards the desk; but the upright ones, let the body be directly before it, and the right elbow turned outwards from your side: so that a right line being drawn from the inner bend of the elbow to the nib of the pen, will make an angle, near 45 degrees, with the line you are writing upon. Let the weight of your body rest upon your left arm, and the paper be kept down with your left hand.

Take care of pressing hard upon your pen in writing any hand.

III. As to the nature of the pen, and the particular rules and proportions for writing each hand, though they might be swell'd up to a very great number, by enlarging upon

every critical nicety, yet I shall deliver only such, as, in my judgment, are most necessary, most beautiful, and most applicable to expeditious practice.

Make the nib of your pen for the round and round text hands the breadth of the full stroke; and that part lying next the hand somewhat shorter and narrower.

For the Italian hand make the nib somewhat finer, and the slit longer.

Your figures likewise must be larger than your writing.

Note, in writing, where figures are intermixed, they must always slope.

When your figures are ranged in columns make them upright.

To make a PEN.

TAKE the first, second, or third quills in the wing of a goose or raven (those that are round, clip and clean are the best :) when you have scraped off the thin rim thereof, with the back-edge of your pen-knife, hold it in your left hand with the feather end from you, then enter the back thereof sloping, and cut off as much in length, as the quill is in breadth, and answer that with another cut on the inside, like an opposite to the former; then turn the quill, and enter the edge of your pen-knife even in the back thereof, and exactly in the middle of the half round, neither inclining the blade one way or other, that the slit may not be made awry. Then put in the peg of your knife haft, if it has one for that purpose, or the end of a whole quill, and with a sudden twitch, force up the slit, holding your left hand thumb hard upon the back of the quill, to put a stop how far the slit shall go. This being done, enter your knife sloping in the other side above the slit, about twice the breadth of the quill, and cut away the cradle-piece; then turn the back upwards, and cut down to the end of the slit, the cheek or shoulder-piece; and in so doing turn the knife on both sides towards the back. After this, place the inside of the end or nib of the pen upon the nail of your left hand thumb, holding the quill fast between the fore finger and middle finger of that

hand. Lastly, to finish the nib, enter the edge of the knife on the back, and near the end thereof stopping, and immediately turning the edge almost downright, cut it off.

There are four considerations belonging to the quill.

If the quill be too hard, steep it a while in water.

If it be too soft, harden it with embers.

If it be too thick, pare a small quantity from the back of the nib.

If it be too thin and weak, strengthen the pen with a short slit, short nib, and broad shoulder.

Best B L A C K I N K.

TO six quarts of rain or river water (but rain water is the best) put one pound and a half of fresh blue galls of Aleppo (for those of Smyrna are not strong enough) bruised pretty small, eight ounces of copperas, clean, rocky and green, eight ounces of roch allum: let these stand together in a large stone bottle, or clean stone pot, or earthen pot, with a narrow mouth to keep it free from dust, shake, rowl, and stir it well once every day, and you will have fine ink in about a month's time, and the older it grows, the better it will be for use.

Ingredients for a Quart.

One quart of water, four ounces of galls, two ounces of copperas, and two ounces of gum, mixed and stirred as above.

L O N D O N I N K P O W D E R.

TAKE ten ounces of the clearest nut galls, bruise them, and sift the powder very fine, then add white copperas two ounces, Roman vitriol three ounces, gum arabick or sandarack an ounce; bruise and sift them very fine so that tho' they appear white, a little being put into water, will in a little time turn it, and an ounce of powder will make a pint of very black ink.

J A P A N O R S H I N I N G I N K.

TAKE gum arabick and Roman vitriol, of each an ounce, galls well bruised a pound, put them into

rape vinegar, or vinegar made of clear small beer; let them remain in a warm place, often stirring, till the liquor becomes black; then add to a gallon, an ounce of ivory black and a quarter of a pint of seed lac-varnish, and it will be a curious black shining-ink.

A POWDER-LINX to rub on paper, and write on.

BRUISE about twenty nut galls, and half an ounce of Roman vitriol, as much gum arabick and gum sandarach, mingle these finely together; when well bruised and sifted to powder, rub the paper hard with it with cotton wool, and polishing it with a piece of ivory, write with water, and in a little time the letters you write will appear a fair black, as if written with the best ink.

To make RED-LINX.

TAKE three pints of stale beer (rather then vinegar) and four ounces of ground brazil wood, simmer them together for an hour; then put in four ounces of rock allum, and these three are to simmer together for half an hour; and then strain it through a flannel, and bottle it up, well stopp'd, for use.

To keep LINX from freezing or moulding.

IN hard frosty weather, ink will be apt to freeze; which if once it doth, it will be good for nothing; for it takes away all its blackness and beauty: to prevent which, if you have not the convenience of keeping it warm, or from the cold, put a few drops of brandy, or other spirits, into it, and it will not freeze. And to hinder its moulding, put a little salt therein.



COPIES for WRITING.

Single-line COPIES in prose, in an alphabetical order.

A.

A Wife man's anger is of short continuance
Accustom your children to a true notion of things

B 3

Adversity is the touchstone of friendship
 Approve not of that man who commends all you say
 A haltering companion is a dangerous enemy
 A wise man governs with ease, and is obey'd with pleasure
 A covetous man is always in want
 Add to your faith, virtue, and to virtue, knowledge
 A prudent man values content more than riches
 A virtuous mind is rather to be chosen than promotion
 Authority is the main point in government
 Abstain from all appearance of evil
 A merry heart maketh a cheerful countenance
 Anger reſteth in the boſom of fools
 A ſoft answer turneth away wrath
 Adversity makes a man wife rather than riches
 Advice comes too late when a thing is done.

B.

BE more afraid of secret sins than open shame
 Brave spirits promote the public good
 Be patient in adversity, and humble in prosperity
 Beauty without virtue is like a painted sepulchre
 Be less confident and more diligent
 By learning to obey, you shall know how to command
 Brave men will do nothing unbecoming themselves
 By diligence and industry we come to preferment
 Buy thou the truth, and sell it not.

C.

CONTENTMENT makes a man happy without a
 fortune

Children require instruction as well as provision
 Commit not that to another, which you can do yourself
 Custom in infancy, becomes nature in old age
 Chide him not too much who confesses his fault
 Courtesy and humility are marks of gentility
 Confession of a fault makes half amends for it
 Contentment is preferable to riches and honour
 Consider the shortness of life, and certainty of death
 Competency with content is a great happiness.



Romain Hand

a b c d e f g h i j k l m n o p q r s t u v w x y z
A B C D E F G H I J K L M
N O P Q R S T U V W X Y Z

He that loveth pleasures shall
be a poor man. he that loveth
wine and cyph. shall not be rich.

German Text

a b c d e f g h i j k l m n o p q r s t u v w x y z
A B C D E F G H I J K L M N O
P Q R S T U V W X Y Z

a b c d e f g h i j k l m n o p q r s t u v w x y z

A B C D E F G H I J K L M

N O P Q R S T U V W X Y Z

Speak not in the ears of
a fool for he will despise

Italian Band

a b c d e f g h i k l m n o p q r s t u v w x y z
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

Pieces are not for ever, doth the
crown endure to every generation

Engrosing

a b c d e f f f g h i j k l m n o p q r s t u v w x y z
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

ab c d e f g h i j k l m n o p q r s t u v w x y z
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

Running Band

But not thy self because of evil men,
neither be thou mercies.
For sake the justice and live and go in
the way of understanding



D.

DEATH destroys not the soul, but an ill life does
 Delight in what you undertake to learn
 Drinking is the drowning of cares, not the cure of them
 Do unto others as you would have them do unto you
 Death will comfortably end a well spent life
 Devise not evil against thy neighbour
 Do not ~~render~~ evil for evil unto any man
 Drunkenness reveals what sobriety conceals
 Do not govern your life by fancy, but by reason
 Delay in many cases is dangerous.

E.

EVERY delay of repentance is a cheat upon ourselves
 Education is that which maketh the man
 Every prudent man dealeth with knowledge
 Exalt wisdom, and she shall promote thee
 Ease and honour are seldom bed fellows
 Evil company makes the good bad, and the bad worse
 Every idle thought to judgment must be brought;

F.

FORSAKE the foolish, and go in the way of understanding
 Follow the dictates of reason, and you are safe
 Forget not God in your mirth, nor yourself in your anger
 First learn to obey before you pretend to govern
 Feed your body as your slave, not as your master
 Fools make a mock at sin
 Few do good with what they have gotten ill
 Future events must be left to Providence
 Frugality and industry are the hands of fortune.

G.

GIVE God the first and last of each day's thought
 Grieve not for those things which are out of your
 power
 Great sins require great repentance
 Good education is the foundation of man's happiness
 Give as cheerfully as you receive

God often corrects us in this life to save us in the next
 God is our refuge, a very prudent help in trouble
 Good manners, grace and truth, are ornaments in youth
 Greater profit doth always come of hearing than of play
 Good men are safe when wicked men are at odds.

H.

HE that will not work should not eat
 Happiness is desired by all, but obtained by few
 He is in some degree wise that conceals his ignorance
 He that begins well has done half the work
 Hear both parties before you give judgment
 He that boasts in his sins glories in his shame
 He never wants comfort that has content
 Hear, ye children, the instruction of a father
 Hear instruction: be wise, and refuse it not
 He that sins against conscience, sins with a witness
 He that swims in sin must sink in sorrow.

I.

IF riches encrease, let not your heart upon them
 In prosperity prepare for adversity
 Idleness has no advocate, but many friends
 It requires as much care to keep, as to get an estate
 Industry keeps the mind clear, and the body healthy
 In the multitude of counsellors there is safety
 Industry is fortune's right hand, and frugality her left
 Instruction and a good education is a durable portion
 It is good to have a friend, but bad to need him.

K.

KE E P back thy servant from presumptuous sins
 Knowledge is the treasure of the mind
 Know when to speak and when to hold your tongue
 Keep company with those who may make you better
 Keep thy tongue a prisoner, that thy body may go free
 Knowledge puffs up some men and humbles others
 Keep thy tongue from evil, and thy lips from guile
 Keep good company, and you shall be of that number
 Keep a close mouth, if you would have a wise head.

Keep at a distance from ill company
Kings may win crowns, but cannot conquer death.

L.

LEARNING is the ornament of youth, and comfort of
age

Lament not the loss of that which you cannot retrieve
Lying lips are an abomination to the Lord
Let another man praise thee, and not thy own mouth
Love not sleep, lest thou come to poverty
Life without a friend, is death with a witness
Learn to live as you would wish to die
Liberty is grateful to all, but destructive to many
Let not the work of to-day be put off till to-morrow.

M.

MERCY and truth shall follow them who devise good
Man has much to learn, but a short while to live
Malice seldom wants a mark to shoot at
Make provision for want in time of plenty
My son, if sinners entice thee, consent thou not
My son, gather instruction from thy youth up
Many know good, but do not the good they know
Many live beggars all their life, that they may not die so
Many are led by the ears more than by the understanding
Many are made saints on earth, that never reach heaven
Mend your manners, and that will mend your fortune.

N.

NCESSITY is commonly the mother of invention
No torments are so great, but patience may van-
quish

Nothing is more contagious than an ill example
Not to grow better is commonly to grow worse
No man hath seen God at any time
None should covet what cannot possibly be had
Nothing is constant in this uncertain world
Nothing is so hard, but diligence may overcome
Nature seldom changes with the climate.

O.

O V.R. life here is but a journey to the next world.
 Of all prodigality, that of time is worst
 One vice is more expensive than ten virtues
 One fault cannot justify the commission of another
 One bad companion may ruin many good men
 Of all poverty, that of the mind is most deplorable
 Of all things, death should never be forgot
 Only by pride cometh contention
 Once well done is twice done
 On present time depends our future state
 Other people's deaths should be memento's to our own.

P.

P ROVIDENCE consults our wants, not wantonness
 Prosperity gains friends, and adversity tries them
 Passion is a bad counsellor and as ill a speaker
 Pride, like a wild horse, overthrows his rider
 Pursue useful and profitable studies
 Poverty and shame attend those that refuse instruction
 Provide against the worst, and hope for the best
 Poor men want many things, but covetous men want all
 Put not off the main business of life to the very article of
 death

Poor freedom is better than rich slavery.

Q.

Q UENCH not the spirit; pray without ceasing
 Quick at meat, quick at work
 Quench not your desires when they tend to good
 Quick promisers are slow performers
 Quietness and content are mates most excellent
 Quiet men have quiet minds, and enjoy content
 Quarrelsome persons sometimes meet with their match.

R.

R EPENTANCE is the physic of the soul
 Remember not the sins of thy youth
 Religion is the best understood when most practised
 Revenge not injuries, but forgive them

Reality is now become a great rarity

Riches profit not in the day of wrath:

Remember thy Creator in the days of thy youth

Remember your duty to God, your neighbour, and yourself

Repent to-day, to-morrow may be too late.

S.

SHAME and disgrace shall be the portion of fools

Sin goes before, and shame certainly follows after

Silence is an antidote against an envious tongue

Saying and doing should be but one man's office

Shew me a liar, and I will shew you a thief

Sin and sorrow are inseparable companions

Soft words sometimes work upon the proudest hearts.

T.

TH E R E are none so poor as those whom God hates

The hope of reward sweetens labour

To praise yourself is the way to be disgraced

The power of example prevails more than precept

Truth is ashamed of nothing but to be hid

The worth of a thing is best known by the want of it

Those who won't mend to-day, shall have more work to-

morrow

The doing nothing is very near doing evil

To do good is the way to find it

Time and tide will for no man stay.

U.

U S E soft words and hard arguments

Unlawful love ends generally in bitterness

Unto the righteous there rise light in darkness

Undertake deliberately, and execute vigorously

Unsanctified prosperity is the bane of virtue

Unto thee will I cry, O Lord, be not silent to me

Unwillingly go to law, and willingly make an end.

V.

V I R T U E is commended by all, but followed by few

Value not yourself by another man's opinion

Virtue often suffers, when vice goes unpunished
 Valour can do little without discretion
 Virtue to noblest acts the mind inclines
 Variety is the beauty of the world
 Virtue is first to be sought, and money next.

W.

WISE men keep their expences short of their income
 Whatever is forbidden in act, is also in thought
 Wicked practices discover bad principles
 Would you be wise, endeavour to be good
 Wisdom to the mind is like death to the body
 We must not blame fortune for our own faults
 Would you be rich, be industrious; if wise, be studious
 Where there is no fault, there needs no pardon
 When passion rides then give reason the reins.

X.

XERXES wept at the thoughts that his vast army
 would be dead in 100 years
 Xenophon accounted the wise man happy
 Xenophon was a learned general
 Xerxes whipt the sea, because it would not obey his command

Xerxes wept at the changeable state of man.

Y.

YOUNG men, see that you honour the aged
 Youth is full of disorder and age of infirmity
 You may know men by the company they keep
 Young men go to death, but death goes to old men
 Young men in strength should provide against age and weakness
 Your vice, and not your poverty, is your shame
 You must crack the shell before you can have the kernel
 Yield quietly to what must come unavoidably.

Z.

ZEALOUSLY strive for an eternal crown
 Zeal grounded on knowledge enlivens devotion
 Zeal for religion cannot warrant revenge
 Zeal in a good cause, commands applause

Zeal without knowledge is but religious wild-fire
Zeal, if not rightly directed, is very pernicious.



COPIES for WRITING in VERSE.

As you expect that men should deal by you,
So deal by them, and give each man his due.

Better it is to gain great reputation,
Then heap up wealth with trouble and vexation.
Constraint in all things makes the pleasure less:
Sweet is the love that comes with willingness.

Despair of nothing that you would attain:
Unweary'd diligence your point will gain.

Experience best is gain'd without much cost:
Read men and books; then practise what thou know'st,
Fortune may sometimes prove true virtue's foe,
But cannot work her utter overthrow.

Greatness in virtue only's under stood:
None's truly great, that is not truly good,
Honour's a god that none but fools adore:
The wife have nobler happiness in store.

If all mankind would live in mutual love,
This world would much resemble that above.
Kingdoms, like private persons, have their fate,
Sometimes in high, sometimes in low estate.

Let each man follow close his proper trade,
And all affairs will soon be better made.

Men's fancies vary strangely, like their faces,
What one commends, another man disgraces.

Number itself is at a loss to guess
Th' endurance of our future happiness.

Oh! that the sons of men would once be wise,
And learn eternal happiness to prize!

Pray thou to God, that he may be inclin'd
To grant thee health of body and of mind.

Quarrelsome brawling, gaming, fuddling, shun:
Thrice happy they, that ne'er such courses run.

Remember, time will come, when we must give Account to God, how we on earth do live.

Some men get riches, yet are always poor; Some get no riches, yet have all things in store.

They that are proud, and other men disdain, Do often meet with scorn and hate again.

Virtue is prais'd but little practis'd by us: So loose the age, that few are truly pious.

What's human life? a day, a race, a span, A point, a bubble, troth: so vain is man.

Xenophilus did well in health abide One Hundred seven years, and then he dy'd.

Young men, take pains, be brisk, and I'll engage Your youthful pains will pleasure yield in age.

Zaleucus made his laws so strict, that those, Who acted whoredom, both there eyes should lose.



Of the POINTS or STOPS, and other MARKS used in writing and reading; with their characters, places, and significations.

THE stops are used to shew what distance of time must be observed in reading: and they are so absolutely necessary to the better understanding of what we write, and read, that without a strict attention to them, all writing would be confus'd, and liable to many misconstructions.

Stops, considered as intervals, in reading, are but four, viz. comma, semicolon, colon, and period, or full stop: and these bear a kind of musical proportion of time one to another: for a comma stops the reader's voice, while he may privately, with deliberation, tell one; the semicolon, two; the colon, three; and the period, four.

Their characters are thus,

Cosma (,) a circular dash at the foot of a word,
Semicolon (;) a point over the comma.

Colon (:) two points.

Period (.) a single point at the foot of a word.

But if a question be asked, there is a circular stroke upon a short line put over the period, and it is called an interrogation, thus (?).

If a sudden wondering be expressed, then a straight line is placed over the period, and it is called a note of admiration, thus (!).

If one sentence be enclosed within another, of which it is no part, then it is put between two large half circles called parenthesis, thus (), and, in reading, this doth something lower the tone of the voice, as a thing that comes in by the bye, interrupting the main coherence of the period, and restraining it from being taken in so large a sense as it might otherwise bear. Each part of it is equal in time to a comma.

These that follow, are the most usual marks in writing.

Accent (') being placed over a vowel, denotes that the tone, or stress of the voice in pronouncing, is upon that syllable.

Apostrophe (') a comma at the head of a letter denotes some letter, or letters, left out for quicker pronunciation, as I'll, for I will; wou'd'st, for wouldest; sh'u't, for shall not; e'e'r, for never.

Asterisk (*) a star, guides to some remark in the margin, or at the foot of the page. Several of them set together signify, that there is something wanting, defective, or immodest in that passage of the author.

Breve (¨) is a crooked mark over a vowel, and denotes that it is sounded quick or short.

Caret (^) is placed underneath the line, and denotes that some letter, word, or sentence, is left out by mistake; and must be taken in exactly where it points.

Circumflex (^) is the same shape as caret, but is always placed over some vowel of a word, to denote a long syllable.

Dieresis (¨) is two points placed over two vowels of a

word, that would otherways make a diphthong, and parts them into two several syllables.

Hyphen (-) is a straight mark across, which being set at the end of the line, denotes that the syllables of a word are parted, and that the remainder of it is at the beginning of the next line.

Here note, that whenever a word is thus parted, the syllables must be carefully separated by the rules of spelling.

'Tis used also to join, or compound, two words into one; as Ale house, Inn keeper.

Being placed over a vowel it is not then properly called a Hyphen, but a Dash, which in writing signifies the omission of m or n; as nothing is more commendable than fair writing; for nothing is more commendable than fair writing.

Index () the forefinger pointing, signifies that passage to be very remarkable, against which it is placed.

Obelisk (†) is used as well as the asterisk *, to refer the reader to the margin. In dictionaries it commonly denotes a word to be obsolete, or less in use.

Paragraph (¶) or division, comprehends several sentences under one head, or subject.

Parenthesis [] or brackets, include words or sentences of the same value and signification with those they are joined to, which may be used in their stead.

Quotation (") or double comma reversed, at the beginning of a line, shews a passage quoted out of an author in his own words.

Section (§) or division, is used in subdividing of a chapter, or book, into lesser parts or portions.



ABBREVIATIONS.

A Breviations are very necessary for dispatch of business, For by them, we expeditiously express, or set down a long word, shortening it, by making some initial letter,

or letters, belonging to the word, to express it; as in the table following.

A. B. Atrium baccalaureus,	C. S. custos sigilli, or the
or bachelor of arts	keeper of the seal
Abp. archbishop	C. P. S. custos privati sigilli, or keeper of the
Acct. account	privy seal
A. D. Anno Domini, or the	Dr. doctor
year of our Lord	Do. ditto
A. M. Anno mundi, or the	D. denarii, or pence
year of the world	Dec. or xber, or 10ber, De-
Adms. administrators	centber
A. M. Atrium magister, or	Devon. Devonshire
master of arts	Decd. deceased
Ans. of each a like quantity	Doct. doctrine
Ap apostle	D. D. doctor of divinity
Adml. admiral	E. g. exempli gratia, or for
Agt. against	example
Amot. amount	Efq; esquire
AUG. August	Exon. Exeter
A. R. Anno regni, or in the	Feb. February
year of the reign	Gent gentleman
B. A. bachelor of arts	Hund. hundred
B. D. bachelor of divinity	i. e. id est, or that is
B. V. b. ff. d Virgin	I. H. S. Jesus hominum sal-
Bart. baronet	vator, Jesus Saviour of
Bp. bishop	men
C. chapter	Inst. instant
Cant. Canterbury	Jan. January
Cent. centum, or hundred	Jno. John
Chan. chancellor	Knt. knight
Capt. captain	L. libræ, or pounds
Cl. clericus, or clerk	Lieut. lieutenant
Co. company	L. L. D. legum doctor, or
Eol. Colossians, colonel	doctor of laws
Comrs. commissioners	Mar. March
Con. Constance	M. A. master of arts
Cr. creditor	Maj. Majesty
C. C. C. corpus Christi college	

Monf. monfieur	qr. quarter, or farthing
Mr. mafter	Rev. reverend
Mrs. miftrefs	Rob. Robert.
M. D. medicinae doctor, or doctor of phyfic	Reg. prof. regus professor
M. S. memoriae facrum, or facred to the memory; alfo, manufcript	Rt. Hon. right honourable
N. note	S. A. fecundum artem, or according to art
N. B. nota bene, note, mark well, or obferve	St. faint
N. S. new ftile	Sett. fectio
No. number	Sept. or 7ber, September
n. l. non liquet, or it does not appear.	Serj. ferjeant
Nov. or 9ber, November	Serv. fervant
Obj. objection	Salop. Shrophshire
O. W. old word	Sr. fir.
O. S. old ftile	fs. femiffis, or half a pound
Oct. or 8ber, October	S. S. T. P. facro fanctae
Oxon. Oxford	theologiae professor, or professor, or doctor of divinity
Pd. paid	The. Theophilus
P. per, or by	Tho. Thomas
per ct. per centum, or by the hundred	V. verfe
Parl. parliament	Viz. videlicet, or to wit, or that is to fay
Philom. philomathes, or lover of learning	Will. or Wm. William
Philo-math. philo mathematicus, or a lover of mathematics	WP. worship
thematics	Xn. christian
P. S. poffcript	Xt. Chrif
Q. queftion	Xtopher. Chriftopher
q. d. quafi dicat, or as if he fhould fay	ye. the
q. l. quantum libet, or as much as you please	yn. then
q. f. quantum fuffi it, or a fufficient quantity	yo. you
	ym. them
	yt. that
	yr. your
	z. zeal
	&c. et cetera, or and the reft, or and fuch like.

TO write on paper GOLD LETTERS, called SHELL GOLD.

LAY a little leaf gold upon a fine earthen plate, and drop thereon a little clear virgin-honey, then work it up with your clean knife's hant, until it is stiff like unto a paste, which put into an oyster shell, and do it close; when you are to write with it, put a little gum-water on the side of the gold, and mix a little thinly fit for your pen.

How to write SECRET LETTERS.

WRITE what you would have seen on one side of the paper with common ink, and on the other side with milk, that which you would have secret; and when you would make the same legible, direct your friend to hold that side, which is written with ink, to the fire, and the milky letters will shew bluish on the other side, and easy to be read.

Another Way.

YOU must write a letter that may carry good sense, to your friend, but let the lines be wide asunder: then between these lines write your secret letter, with gall water only, wherein the galls have been infused but a little time; for if after you have written with it, there be any sensible colour left upon the paper, you must throw away the water, and make new; this being dry, and of one colour with the paper, will give no cause of suspicion; and the rather, because the letter purporteth a sufficient sense already. Now for the discovery of it, you must dissolve some coperas in fair water, and with a fine pencil, dip it in the coperas water, you must moisten the interlining of your letter, and thereby you shall make it legible.

TO write both BLUE and RED LETTERS at once, with the same ink and pen, and upon the same paper.

PUT the quantity of a hazel nut of limose blue to three spoonfulls of conduit water, wherein some gum arabic is dissolved; and when it hath settled the space of

an hour, if your write therewith you shall have perfect blue letters: and if you dip a pencil in the juice of lemons, and wet some part of the paper therewith, and afterwards let your paper dry again, and then write upon the place where the juice of the lemon was laid, with your blue ink, the letters will suddenly become red, and in all the rest of the paper, the letters will be blue.

A POEM in praise of the invention of WARTING.

B L E S T be the man! his memory at least,
Who found the art, thus to unfold his breast;
And taught succeeding times an easy way,
Their secret thoughts by letter to convey;
To baffle absence, and secure delight,
Which till that time was limited to sight.
The parting farewell spoke, the last adieu,
The less'ning distance past, the loss of view,
The friend was done which some kind moments gave,
And absence separated like the grave.

When for a wife the youthful patriarch sent,
The camels, jewels, and the steward went,
And wealthy equipage, though grave and slow,
But not a line that might the lover show:
The ring and bracelets woo'd her hands and arms,
But had she known of melting words the charms
That under secret seals in ambush lie,
To catch the soul, when drawn into the eye,
The fair Assyrian had not took his guide,
Nor her soft heart in chains of pearl been ty'd,



L E T T E R S.

On Compliment, Business, and several other important Occasions.

I H E R E present you with a collection of useful letters on such subjects as may naturally occur to a young man, both before, and at his first setting out in the world;

which, if read attentively, and copied carefully, will soon correct his orthography, and his manner of writing, and serve him to form a tolerable stile.

L E T T E R I.

From a father to his son, on his keeping bad company, bad hours, &c. in his apprenticeship.

Dear Son,

I Am very much concerned to hear, that you are of late fallen into bad company; that you keep bad hours, and give great uneasiness to your master, and break the rules of his family: that when he expostulates with you on this occasion, you return pert and bold answers; and, instead of promising or endeavouring to amend, repeat the offence; and have entered into clubs and societies of young fellows, who set at nought all good example, and make such persons as would do their duty the subject of their ridicule as persons of narrow minds, and who want the courage to do as they do.

Let me, on this occasion, expostulate with you, and set before you the evil of the way you are in.

In the first place: What can you mean by breaking the rules of a family you had bound yourself by contract to observe? Do you think it is honest, to break thro' engagements into which you have so solemnly entered; and which are no less the rules of the corporation you are to be one day free of, than those of a private family?—Seven years, several of which are elapsed, are not so long a term, but that you may see it determined before you are overfit to be trusted with your own conduct; twenty-one or twenty-two years of age is full early for a young man to be his own master, whatever you may think; and you may surely stay till then, at least to chuse your own hours, and your own company; and, I fear, as you go on, if you do not mend your ways, your discretion will not then do credit to your choice. Remember, you have no time you can call your own, during the continuance of your contract;

and must you abuse your master in a double sense; rob him of his rest; then break peace in his family, and give a bad example to others? and all for what? why to riot in the company of a set of persons, who condemn, as they teach you to do, all order and discipline; who in all likeness, will lead you into gaming, drinking, swearing, and even more dangerous vices, to the unhinging of your mind from your business, which must be your future support.

Consider, I exhort you, in time, to what these courses may lead you. Consider the affliction you will give to all your friends, by your continuance in them. Lay together the substance of the conversation that passes in a whole evening with your frothy companions, after you are come from them; and reflect what solid truth, what useful lesson, worthy of being inculcated in your future life, that whole evening has afforded you; and consider, whether it is worthy breaking thro' all rule and order for?—whether your present conduct is such as you would allow in a servant of your own? whether you are so capable to pursue your business with that ardour and delight next morning, as if you had not drunk, or kept bad hours, over night? if not, whether your master has not a double loss and damage from your mispent evenings? whether the taking of small liberties, as you may think them, leads not on to greater? for, let me tell you, you will not find it in your power to stop when you will; and then, whether any restraint at all will not in time be irksome to you?

I have gone through the like servitude with pleasure and credit. I found myself my own master full soon for my discretion; what you think of yourself I know not; but I with you may do as well for your own interest, and reputation too, as I have done for mine; and I'll assure you I should not have thought it either creditable or honest to do as you do. I could have stood the laugh of an hundred such vain companions as you chuse, for being too narrow-minded to break through all moral obligations to my master, in order to shew the bravery of a bad heart, and what

an abandoned mind dared to perpetrate. A bad beginning seldom makes a good ending, and if you were assured that you could stop when you came for yourself, which is very improbable, how will you answer it to equity and good conscience, that you will do so for your master ! There is, let me tell you, more true bravery of mind in forbearing to do injury, than in giving offence.

You are now at an age when you should study to improve, not divert, your faculties. You should now lay in a fund of knowledge, that in time, when ripened by experience, may make you a worthy member of the commonwealth. Do you think you have nothing to learn, either as to your business, or as to forming of your mind ? would it not be much better to chase the silent, the sober conversation of books, than of such companions as never read or think ; an author never commits any but his best thoughts to paper ; but what can you expect from the laughing, noisy company you keep, but frothy prate, indigested notions, and thoughts so unworthy of being remembered, that it is the greatest kindness to forget them ?

Let me intreat you then, my dear son, for your family's sake, or for your own sake, before it be too late, to reflect, as you ought, upon the course you are enter'd into. By applying yourself to books, instead of such vain company, you will be qualified in time for the best of company, and to be respected by all ranks of men. This will keep you out of unnecessary expences, will employ all your leisure time, will exclude a world of temptations, and open and enlarge your notions of men and things, and finally, set you above that wretched company which now you seem so much delighted with. And one thing let me recommend to you, that you keep a list of the young men of your standing within the compass of your knowledge, and for the next seven years, observe what fate will attend them ; see, if those who follow not the course you are so lately entered into, will not appear in a very different light from those who do ; and from the industry and prosperity of the one, and the decay or failure of the o-

ther (if their vain ways do not blatt them before, or as soon as they begin the world) you'll find abundant reason every day to justify the truth of the observations I have thrown together. As nothing but my affection for you could possibly influence me to these expostulations, I hope for a proper effect from them, if you would be thought well of by, or expect any favour from,

Your loving father.

Your master will, at my request, send me word of the success of my remonstrances.

L. E. T. T. E. R. II.

Advice from an uncle to a young beginner, &c.

Dear Thomas,

AS you are now entering into the world, and will probably have considerable dealings in your business, the frequent occasions you will have for advice from others, will make you desirous of singling out among your most intimate acquaintance, one or two whom you would view in the light of friends.

In the choice of these your utmost care and caution will be necessary: for by a little mistake here you can scarcely conceive the fatal effect: as you may hereafter experience; wherefore it will be proper for you to make a judgment of those who are fit to be your advisers, by the conduct they have observed in their own affairs, and the reputation they bear in the world. For he who has by his own indiscretions undone himself is much fitter to be set up for a land-mark for a prudent mariner to shun his courses, than an example to follow.

Old age is generally slow and heavy, youth headstrong and precipitate: but there are old men who are full of vivacity, and young men replenished with discretion; which makes me rather point out the conduct than the age of persons with whom you should chuse to associate; tho' after all, it is a never-failing good sign to me of prudence

and virtue in a young man, when his seniors chuse his company, and he delights in theirs.

Let your endeavours therefore be, at all adventures, to comfort yourself with men of sobriety, good sense and virtue; for the proverb is an unerring one, that says, A man is known by the company he keeps. If such men you can single out, while you improve by their conversation you will benefit by their advice: and be sure remember one thing, that tho' you must be frank and unreserved in delivering your sentiments, when occasions offer, yet that you be much readier to hear than speak; for to this purpose it has been significantly observed, that nature has given a man two ears, and but one tongue. Lay in therefore by observation, and a modest silence, such a store of ideas, that you may, at their time of life, make no worse figure than they do: and endeavour to benefit yourself rather by other people's ills than your own. How must those young men expose themselves to the contempt and ridicule of their seniors, who, having seen little or nothing of the world, are continually shutting out by open mouths, and closed ears, all possibility of instruction, and making vain the principal end of conversation, which is improvement! A silent young man makes generally a wise old one, and never fails of being respected by the best and most prudent men. When therefore you come among strangers, hear every one speak before you deliver your own sentiments; by this means you will judge of the merit and capacities of your company, and avoid exposing yourself, as I have known many do, by shooting out hasty and inconsiderate bolts, which they would have been glad to recall when perhaps a silent genius in company has burst out upon them with such observations, as have struck consciousness and shame into the forward speaker, if he has not been quite destitute of reproach.

I have thrown together, as they occurred, a few thoughts which may suffice for the present to shew my care and concern for your welfare. I hope you will constantly, from time to time, communicate to me whatever you shall

think worthy of my notice, or in which my advice may be of use to you. For I have no pleasure in this life equal to that which the happiness of my relations gives me. And of this you may be assured; for I am, and ever must be,

Your loving uncle.

L E T T E R III.

General rules of conversation, &c. From a clergyman to a young tradesman.

Dear Henry,

AS I had not an opportunity of saying so much to you as I wished when you were last here; I send this to inform you of some things, in your general conversation, which I think would be proper for you to observe and amend; particularly your excessive itch for talking; which discovers itself alike on all occasions. I have always flattered myself, that you do not want sense; and am willing to hope I have not been deceived: but the dangerous insufficiency of most young men seems violently to have seized you, which, I hope, a little reflection will remove.

The art of rendering yourself agreeable in conversation is worth your serious study; 'tis an advantage few can boast, tho' sought after by all; and nothing is so constant an enemy to success in those who would excel in this art, as the harbouring an opinion of their own proficiency, before they have attained to any tolerable degree of knowledge, in what they imagine themselves possessed of. Conversation, where it is rightly managed, must be so conducted as to let each member in the company have a share in the pleasure and applause it affords; if you are fix in number, after you have told a story, or made any remark which gives a general satisfaction; you must consider it is the right of another to call your attention in his turn; and, unless particularly requested, it betrays a great weakness to follow yourself. No doubt you love to be admired; and have not others the same passion? you believe your wit more

brilliant than theirs; are you sure that they are not of the same opinion as to their own? If a man speaks little, you must not from thence conclude him willing to give up every claim to conversible merit; perhaps he cannot sing; but to be sure he is as desirous of having his peculiar humour, or his dry joke, applauded, as you are to be intreated another song. If he is no mathematician, perhaps he is versed in religious disputation; if he despises plays, he may admire history; tho' he understand not geography he may yet know how to describe the humours of mankind; and tho' he pretends not to politics, he may have a turn for some more useful science. When these are considered, if his modesty is great, you cannot oblige him more than by throwing an opportunity in his way to display his capacity on the subject he believes himself most able to handle with advantage; for, in order to support a thorough good humour, a man must be pleased with himself as well as with others. When this is properly taken care of, conversation seldom fails to prove entertaining; and to the neglect of this are owing many of the yawning hours spent in companies composed of men not incapable of behaving agreeably.

The manner of telling a story is also worth your notice; you have known the pleasure of hearing a long one well told; Mr. French has an admirable talent in this way; but then you must observe that half the pleasure he gives arises from his happily avoiding any of the filthy digressions which are the great cause of a story's seeming tedious; you never hear him mingle his relation with, I remember very well it was the same day that squire Worthy's son came of age—I bought my bay nag the very day before, at such a fair, being a Friday that year;—or, I can scarce think of it without laughing;—or, but, however, as I was saying;—and a hundred more such dead weights to attention. Nor does he ever praise a story before he relates it; a fatal rock to many a good relation, for when a story wants a preparatory recommendation, it ought not

to be told, and even when the relation is possible, the generality of auditors are apt to persuade themselves,

The mountain labours, and a mouse is born,

These are loose and general hints, yet by a due improvement of them you will find yourself very sensibly grow more and more agreeable wherever you converse. An easy and becoming freedom you already have, and by the addition of discretion in your use of them, and complaisance to others, you will probably succeed in the desire so predominant in you, of being admired by men of sense and judgment; which will be no small pleasure to yours, &c.

L E T T E R IV.

A young man in business, to a father, desiring leave to address his daughter.

S I R,

London, September 24.

I Hope the justness of my intentions will excuse the freedom of these few lines, whereby I am to acquaint you of the great affection and esteem I have for your daughter. I would not, Sir, offer at any indirect address, that should have the least appearance of inconsistency with her duty to you and my honourable views to her; choosing, by your influence, if I may approve myself to you worthy of that honour, to commend myself to her approbation. You are not insensible, Sir, by the credit I have hitherto preserved in the world, of my ability, by God's blessing, to make her happy; and this the rather emboldens me to request the favour of an evening's conversation with you at your first convenience, when I will more fully explain myself, as I earnestly hope, to your satisfaction, and take my encouragement or discouragement from your own mouth. I am, Sir, mean time, with great respect,

Your most obedient and humble servant.

L E T T E R V.

A young gentleman's letter to a father, apprising him of his affection for his daughter.

S I R,

Canterbury, June 12.

Take the liberty, though personally unknown to you to declare the great value and affection I have for your worthy daughter, whom I had the honour to see at my good friend Mr Telcruth's. I should think myself intirely unworthy of her favour, and of your approbation, if I could have a thought of influencing her resolution but in obedience to your pleasure; as I should on such a supposition, offer an injury likewise to that prudence in herself, which I flatter myself, is not the least of her amiable perfections. If I might have the honour of your countenance, on this occasion, I would open myself and circumstances to you in that frank and honest manner which should convince you of the sincerity of my affection for your daughter; and at the same time of the honourableness of my intentions. In the mean while I will in general say, that I have been set up in my business, in the linen drapery way, upwards of four years; that I have a very good trade for the time: that I had 2000*l.* to begin with, which I have improved to 2500*l.* as I am ready to make appear to your satisfaction; that I am descended of a creditable family, have done nothing to stain my character, and that my trade is still farther improveable, as I shall, I hope, enlarge my bottom. This, Sir, I thought but honest and fair to acquaint you with, that you might know something of a person who sues to you for your countenance, and that of your good lady, in an affair that I hope may prove one day the greatest happiness of my life; as it must be if I can be blessed with that, and your dear daughter's approbation. In hope of which, and the favour of a line, I take the liberty to subscribe myself,

Good Sir,

Your most obedient humble servant.

L E T T E R VI.

From a country chapman beginning trade, to a city dealer, offering him his correspondence.

S I R,

Leeds, Oct 20.

THE time of my apprenticeship with Mr Trusty of this town, being expired, I am just going to begin for myself in Wakefield, having taken a shop there for that purpose. And as I know the satisfaction you always gave to my master in your dealings, I make an offer to you of my correspondence, in expectation that you will use me as well as you have done him, in whatever I may write to you for. And this I rather expect, as you can easily oblige Mr Trusty by it, because of the distance I am from him; and I shall endeavour to give you constant with regard to my payments, &c. Your answer whether or no you are disposed to accept of offer, will oblige

Your humble servant.

L E T T E R VII.

From an apprentice to his master, begging forgiveness for a very great misdemeanor.

Good Sir,

I Am so ashamed of myself for the last occasion I have given you to be angry with me, after my repeated promises of amendment, that I have not the courage to speak to you. I therefore take this method of begging you to forgive what is past; and let this letter testify against me if ever I wilfully or knowingly offend again for the future. You have children of your own. They may possibly offend; tho' I hope they never will do as I have done. Yet, Sir, would you not wish they might meet with pardon, if they shou'd, rather than reprobation?—My making or my ruin, I am sensible, lies in your breast. If you will not forgive me, sad will be the consequence to me, I

E E T T E R S.

43

doubt. If you do, you may save a soul, as well as a body, from misery; and I hope, Sir, you will weigh this with your usual goodness and consideration. What is past I cannot help; but for what is to come, I do promise, if God gives me health and power, that my actions shall testify for me how much I am,

Good Sir,

Your repentant humble servant.

L E T T E R VIII.

The master's answer.

My letter has affected me so much, that I am willing more to pass over all you have done. Surely my depend on these your solemn assurances, and as I hope, deep contrition? If not, be it as you say, and, let your letter testify against you for your ungrateful baseness; and for me, in my readiness (which however shall be the last time) to forgive one that has been so much used to promise, and so little to perform. But yet I hope for better, because I yet wish you well; being as you use me,

Yours or otherwise.

L E T T E R IX.

To a country correspondent, modestly requesting a balance of accounts between them.

S I R,

I Find myself constrained, by a present exigence, to beg you to balance the account between us. The matters have run into some length, yet would I not have applied to you, had I known so well how to answer my pressing occasions any other way. If it suits you not to pay the whole, I beg, Sir, you would remit me as much to-

wards it as you can, without prejudice to your own affairs; and it will extremely oblige

Your most humble servant.

L E T T E R X.

In answer to the preceding.

S I R,

I Am very glad I have it in my power to send you now, directly one hundred pounds, on account between us, which I do by our carrier, who will pay you in specie. I will soon remit you the balance of your whole demand, and am only sorry that I gave occasion for this application for what is so justly your due. When I send you the rest, which will be in a few days, if I am not greatly disappointed, I will accompany it with an order, which will begin a new debt; which I hope to be more put off than in discharging, than I have been in the last. I am very sincerely,

Your faithful friend,
And humble servant,

L E T T E R XI.

From a sailor to his betrothed mistress.

My dear PEGGY,

Barbadoes, Oct 9.

I F you think of me half so often as I do of you, it will be every hour, for you are never out of my thoughts; and, when I am asleep, I constantly dream of my dear PEGGY; I wear my half bit of gold always at my heart, tied to a blue ribband round my neck; for true blue, my dearest love, is the colour of colours to me. Where, my dearest, do you put yours? I hope you are careful of it; for it would be a bad omen to lose it.

I hope you hold in the same mind still, my dearest dear; for God will never bless you, if you break the vows you have made to me. As to your ever faithful Andrew, I would sooner have my heart torn from my breast, than

it should harbour a wish for any other woman besides my Peggy. O my dear love! you are the joy of my life: my thoughts are all of you; you are with me in all I do, and my hope and my wishes are only to be yours. God send it may be so.

Our captain talks of sailing soon for England; and then, my dear Peggy! — O how I rejoice, how my heart beats with delight, that makes me I cannot tell how, when I think of arriving in England, and joining hands with my Peggy, as we have hearts before, I hope; I am sure I speak for one.

John Arthur, in the good ship George, Capt. Plowden, which is returning to England (as I hope we shall soon) promises to deliver this into your own dear hand; and he will bring you too, six bottles of citron-water, as a token of my love. It is fit for the finest ladies taste, it is so good, and is what they lay ladies drink, when they can get it.

John says, he will have one sweet kiss of my dearest Peggy, for his care and pains. So let him, my best love, for I am not of a jealous temper. I have a better opinion of my dearest, than so. — But, oh, that I was in his place — One kiss should not serve my turn, though I hope it may his. Yet if he takes two, I'll forgive him; one for me, and one for himself. For I love John dearly, and so you may think. Well, what shall I say more? — Or, rather, what shall I say next? — For I have an hundred things crowding in upon me, when I write to my dearest, and, alas, one has so few opportunities! But yet I must leave off; for I have written to the bottom of my paper. Love then to all friends, and duty to both our mothers, concludes me

Your lover till death.

L E T T E R XII.

Her ANSWER.

Dear Andrew,

FOR so I may call you now we are sure; and so my mother says. This is to let you know, that nothing shall prevail upon me to alter my promise made to you, when we parted, with heavy hearts enough. that's true; and yet I had a little inclining given me, that Mr Plank's son the carpenter would be glad to make love to me: but do you think I would suffer it? no, indeed; for I doubt not your loyalty to me: and do you think I will not be as loyal to you? — To be sure I will. These sailors run such chances, said one that both you and I know. They may return, and they may not. Well, I will trust in God for that, who has returned safe to his friends their dear Andrew so many a time and often. They will have a mistress in every land they come to, said they. All are not such naughty men, said I, and I'll trust Andrew Trusty all the world over. For why cannot men be as faithful as women too? and for me I am sure no love shall touch my heart but yours.

God send us a happy meeting! Let who will speak against sailors, they are the glory and safe-guard of the land: and what would have become of old England long ago but for them? I am sure the lazy, good for-nothing land-lubbers would never have protected us from our cruel foes. So sailors are, and ever shall be, esteemed by me, and of all sailors, my dear Andrew Trusty. Believe this from

Your faithful, &c.

P. S. I had this letter written in readiness to send you, as I had an opportunity, and the captain's lady undertakes to send it with hers. That is very kind and condescending: Is it not?

LETTER XIII.

Of congratulation.

S I R,

DO not admire that I am of the last, that congratulate with you your good fortune: the joy which I conceived was so extreme, that it could afford me no sooner the liberty to acquit myself. I know the most of your friends have prevented me, but their satisfaction being small, I do not wonder if their diligence be the greater. As for my part, my idleness increaseth my merit, since stay and protraction proceeded only from the excess of the gladness of,

S I R,

Your most humble servant,
Tom Joyful.

LETTER XIV.

ANSWER.

S I R,

SINCE you take part in the good fortune which has befallen me, you must also participate in the advantage of the new credit which it has brought me into. This I advertise you of, to the end, that you let not any occasion slip, wherein you may procure a proof of my friendship, nor forget this advice which I give you, for believe me, I am impatient to have an opportunity of shewing you how much I am,

S I R,

Your friend and servant,
Timothy Grateful.

L E T T E R S.

L E T T E R XV.

Of thanks, &c.

S I R,

I Received the favour of yours with a kind present: and I know not indeed at this time any other way to shew my gratitude, than by my hearty thanks for the same. Every thing you do carries a charm with it; your manner of doing it is as agreeable as the thing done. In short, Sir, my heart is full, and would overflow in your praise, did I not stop, and subscribe myself

Your most obliged,

May 13th, }

And most obedient servant,

1762

Thomas Thankful.

L E T T E R XVI.

Requiring the payment of money, which serves for an acquittance.

S I R,

I Find, upon stating the account between you and me, that several considerable sums of money are due to me from you; wherefore, having occasion for thirty pounds, I desire you to send it me by the bearer hereof (or here name the carrier) and in so doing you will very much oblige me.

As to the payment thereof, this letter and the bearer's acquittance, shall be your sufficient security and discharge for so much money. In witness whereof, I have hereunto set my hand, the sixth day of June, 1762.

John Tradewell.

L E T T E R XVII.

A N S W E R.

S I R,

I send by the bearer (or the carrier) thirty pounds, according to your desire, and have taken his receipt for it; but, because you know I send but for small parcels of goods at a time, therefore I desire you always for the future, when I send you money, that you mention in the acquittances the names of the goods for which you received the money, or at least I would have you to mention what money remains unpaid; for through want of such certain knowledge, some poor country tradesmen have found great loss, either by the master or their apprentices receiving the money sent, and not mentioning for what goods. Pray take it not ill that I thus write, for I am satisfied of your honesty dealing; but know not the servant you intend to receive the money, I send in small parcels. I rest

Your friend and chapman,

James Punctual.

L E T T E R XVIII.

From a servant in his master's absence to one of his country customers.

Mr Thomas Merchant,

S I R,

I Received yours, and for answer say, I am very sorry to hear that the goods have not answered your expectation; however, have placed them to the credit of your account, and returned others in their stead by Robert Deham the carrier. I know my master would willingly oblige you in any thing in his power, and as his faithful

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50 L E T T E R S.

servant I have herein done my utmost to give you satisfaction, who am

To Mr Tho. Merchant, } Your most humble servant,
clohier in Halifax. }

James Windsor.

L E T T E R XIX.

From a youth at school in Durham to his parents in London.

Durham, January 12. 1762.

Honoured father and mother,

I Received your kind letter of the 14th of November past, and also the several things therein mentioned, by the Newcastle waggon, for which I return you my most humble and hearty thanks, they coming very seasonably for the relief of my occasions. I begin to make pretty good improvement in my learning now (tho' at first it seemed a little irksome and hard) and I hope to gain the point at last for which you sent me hither. Pray accept of my most humble duty to yourselves, and give my kind love to my brothers and sisters, and to my old play fellows and neighbours; this being all at present from,

Honoured parents, your dutiful son,

Peter Wife.

L E T T E R XX.

From an apprentice to his friends.

Honoured father and mother,

By these I let you know, that by your care and conduct I am well settled, and pleased with my station, and could not but in duty return you my hearty thanks in a grateful acknowledgment of your love and tender care of me: I will endeavour to go through my business cheerfully; and having begun well, I hope I shall persevere to do so to the end, that I may be a comfort to you hereaf-

L E T T E R S.

55

ter, and in some measure make a return of your love and kindness to me, who am

Your dutiful obedient son,

And most humble servant,

Jeremiah Careful.

L E T T E R. XXI.

Of recommendation.

S I R,

THE bearer hereof, James Roberts, I send you, as one whose honesty you may rely on, and my experience of his conduct and fidelity gives me a certain kind of confidence in recommending him to you; but you know me, Sir, and I believe you cannot in the least think that I would recommend any one to you, if I had the least umbrage of suspicion or doubt concerning their probity. I am, Sir,

Your real friend and humble servant,

James Goodman.

L E T T E R. XXII.

To a country chapman.

Mr James Tradewell,

S I R,

YOU and I have formerly had trading together, and it is not my fault that we do not continue so to do; for assure yourself I have a great value and respect for you, and on that account none shall be more ready to oblige you in what I may; and pray let us once more resume our dealing together, and you shall find, that for any goods you have occasion for in my way, none shall use you more kindly than,

S I R,

Your real friend, and humble servant,

George Pundual.

SE

L E T T E R S.

L E T T E R XXII.

By way of petition.

Honoured Sir,

I Am uncertain whether my late misfortunes have come to your knowledge; however, I most humbly presume on your good nature, being assured by sundry examples of your compassion, that you will think of, and take pity on the distressed: therefore as an object truly deserving compassion, I most humbly implore and petition you to consider the many losses and disappointments, that I have met with in my wayward and unlucky fortune, which have reduced me to such necessitous circumstances, that I cannot possibly proceed in my affairs: you was pleased once to assist me your friend, and so I was indeed; and so I would certainly do now, and shew it by a signal proof of kindness, if your circumstances were changed, by standing between you and misfortunes, and screening you from the malevolent and insidious influences of cross-grained flars. I doubt not, Sir, but your generosity and goodness is as great; and I hope with all humility, you will be pleased to interpose your good offices, &c. between unlucky fortune, and,

S I R.

Your very humble servant,

George Shipwreck,

L E T T E R XXIV.

To a friend to desire him to endeavour to end a difference between two of their friends.

Loving Cousin,

AFTER my love to you, this is to let you know, that two of your friends, D. N. and J. H. are going to law upon a trifling occasion. I pray come over and see to reconcile them, or send your advice how I may labour

to do it, and I shall be very much obliged to you. I remain

Your affectionate kinsman and humble servant,

G. T.

L E T T E R XXV.

The answer, with advice.

Dear Friend,

W H I T H my unfeigned love to you, I received your letter, and it grieves me to hear that our friends should be for going to law, and not compelled to it; for then much money is spent upon lawyers, to end their differences by jury-men, when two friends may do it better.

But if one of the parties is for going to law, and the other not, then he that is against going to law is the most christian, and is not to be blamed, tho' he uses the law of the nation to defend himself, neither indeed can he avoid it, if his adversary seeks revenge, and so forces him to spend his money in his defence.

But you desiring my advice about reconciling those two friends, they having not yet see'd lawyers, persuade the man that is for going to law, that two friends chosen by both parties may end their differences, or one person only.

And when they have nominated two to end it, then persuade the two parties to put into the hands of those arbitrators, 5*l*. or more a-piece, according to the value of the trespass. This agreed on, next,

Let the parties sign and seal general releases to each other: then the arbitrators must dispose of the money as they see good, to the party that has received the wrong, &c.

Thus differences among friends may be composed at a much cheaper and better rate than by trial at the assizes.

But yet 'tis best when contending parties agree by them-

selves, as *Christ* commands, *Mat. xiii. 15.* and forgive trespasses, *Mat. iv. 12.*

Besides this, having general releases, it cuts off all former differences, and saves from divers expences, and from bonds of arbitration and awards, which, tho' they cost money, often prove of no effect.

Would to God the advice above, of reconciling men at difference, would take effect in general, then would peace flourish, &c.

I remain your friend,

Jeremiah Peacable.

L E T T E R XXXVI.

From a gentleman to a gentlewoman, to beg pardon for an offence.

Madam,

I*T* IS in vain to contend with my judge, and therefore, tho' I know my fault has been aggravated beyond what it could justly bear, yet I will rather submit myself to your sentence than go about to extenuate my crime: I am guilty enough that I have offended you, tho' I never designed it: and when you have done yourself justice, by insisting upon me what you think I merit for my offence, then I will plead my innocency, and let you know I always was so far from saying any thing that might reflect upon your fame, that, in my opinion, not innocence itself is more unspotted, nor can unluck'd snow appear more white: 'tis true, I am guilty to give you ground to think I have offended; but my offence is my misfortune rather than my fault. But, Madam, what if I appeal from your severer justice to your mercy? I know you are not inexorable, nor did you sack the breasts of wolves and tygers; and since there is so much sweetness in your eyes, there needs must be some pity in your heart, at least so far as to forgive a poor repenting criminal. And since you are such a bright idea of the author of all goodness, you cannot but, like him, delight in shewing mercy. I shall

L E T T E R S.

55

henceforth endeavour to be like Caesar's wife, not only free from guilt, but from suspicion: and further, shall, to expiate my offence, remain

Your truly sorrowful,

And much afflicted humble servant,

Roger Beardon.

L E T T E R XXVII.

A N S W E R.

S I R,

I Received your letter, and must let you know, that what-I loever reflects upon my fame (which is far dearer to me than life) though at the most remote distance, is what I cannot but think a fault, and therefore know not how you can be innocent: and indeed to plead your innocence, is to accuse me of injustice, in charging you with a crime; but from what you write, I am inclined to believe, that in what you said, you designed no injury to me; and that it was a crime of inadvertence rather than of malice. And for that reason upon your profession of repentance, I freely pardon you; but charity itself does not injoin me to hug the man I pardon in my bosom: you must not expect therefore to be admitted to the former freedoms you enjoyed, since you have made so ill use of them, till you have given some more substantial proofs of the sincerity of your repentance. And though I pardon this your first offence, yet if you should relapse into your former follies, you must expect a much severer treatment: for then I shall no more esteem myself, as I now do,

Your reconciled friend to serve you,

Samuel Forsgiwell.



A Liquor to wash old Deeds and Waitings, &c. whereby they are rendered as legible as when first wrote.

TAKE five or six galls, bruise them, and put them into a pint of the very best white wine, let it stand in the sun two days; you will by trial soon see whether it is too strong or too weak: Dip a brush into it, and wash the part wanted to be cleared up.

To take Blots of Ink out of Paper.

TAKE aqua-fortis and put it upon the blots of ink, and it will presently disappear; then put a little vinegar upon it, and it prevents staining. Spirit of vitriol does the same.

To clean Oil-Paintings.

IF smoked, or very dirty, take Rale urine and a little common salt; rub them over with a woollen cloth dip in that, till you think them quite clean; then with a sponge wash them over with clean water; then dry them and rub them over with a clean cloth: if your paintings be not very dirty, rub them with salt with a linen cloth; then wash and dry them.

To make VARNISH for OIL-PAINTINGS.

ACcording to the number of your pictures, take the whites of the same number of eggs; and to each picture take the bigness of a hazel-nut of white sugar-candy dissolved, and mix it with a tea-spoonful of brandy; beat the whites of your eggs to a froth; then let it settle; take the clear, put it to your brandy and sugar, and varnish over your pictures with it: this is much bet-

ter than any other variety, as it is easily washed off when your pictures want cleaning.

AND A SHORT HISTORY OF THE ART OF PAINTING.

PREFACE in Law and Business, that all young men ought to know and be acquainted with.

Supercriptions for Letters.

TO the king, or, To the king's most excellent majesty.

To the queen, or, to the queen's most excellent majesty.
To the prince, or, To his royal highness. To the princess, or, To her royal highness.

And in case of the lord's spiritual, viz. To his grace the lord archbishop of Canterbury: To the right reverend father in God, &c. The same to the archbishop of York. If to the other bishops, To the right reverend father in God, Archibald lord bishop of, &c. And to the inferior clergy, To the reverend doctor, &c. To the reverend Mr. &c.

To write to temporal lords, viz.

To his grace the duke of—

To the right honourable the marquiss of—

To the right honourable the earl of—

To the right honourable the lord viscount—

To the right honourable the lord—

All the sons of the nobility, though not the immediate heirs, are to be dignified with the title of honourable, as their due by birthright. And to a knight and baronet by virtue of their patent, the title of honourable and right worshipful is given. As likewise the former to a knight, and worshipful to an esquire.

Every privy counsellor, though not a nobleman, is styled right honourable: all ambassadors have the stile of ex-

38 *Directions for the beginning of Letters.*

cellency, as likewise hath the lord lieutenant of Ireland, and the captain general of his majesty's forces when in being; nor has the mayor of London, during his mayoralty, a less title than right honourable; and the sheriffs, during their office, are stiled right worshipful, nor does any thing less than the title of esquire extend to the mayors of any corporation during their office.

Directions for the beginning of Letters:

TO the king, Sir, or, May it please your majesty.
To the queen, Madam, or, May it please your ma-

jesty.

To the prince, Sir, or, May it please your royal highness.

To a duke, My lord, or, May it please your grace.

To a duchess, Madam, or, May it please your grace.

To a marquis, My lord, or, May it please your lordship.

To a marchioness, Madam, or, May it please your ladyship.

To an earl, viscount, or baron, Right honourable, or, May it please your lordship.—In viscount or viscountess, sound not the *v* in the first syllable.

To a countess, viscountess, or baroness, Madam, or Right honourable, or, May it please your ladyship.

To a knight, Sir, or, Right worshipful; and to his lady, Madam, or may it please your ladyship.

To a mayor, justice of peace, esquire, &c. Sir, or, May it please your worship.

At subscribing your name end with the same title you began with. As, My lord, your lordship's, &c.



Of WILLS and TESTAMENTS.

A Will, according to the common acceptation, is the declaration of a person's mind or intent, in relation to what he would have done after his death. The common law calls that a will, whereby lands and tenements are devised; but when it concerns only chattels, viz. moveables or what is not inheritable, it is called a testament; where lands are given by will, it is termed a devise; and where goods and chattels, commonly termed a personal estate, are bequeathed, it is called a legacy.

Devisees of land, &c. must be in writing, signed by the devisor or person giving, generally called the testator, or some person by his express direction in the presence of three credible witnesses. If a personal estate of above the value of thirty pounds be bequeathed by word of mouth, which the law calls a nuncupative will, it must be likewise done in the presence of three witnesses.

Form of a Will.

IN the name of God, Amen. I A. B. of, &c. being thro' the abundant mercy and goodness of God, tho' weak in body, yet of a sound and perfect understanding and memory, do constitute this my last will and testament, and desire it to be received by all as such: *Imprints*, I most humbly bequeath my soul to God, my Maker, beseeching his most gracious acceptance of it thro' the all sufficient merits and mediation of my most compassionate Redeemer, Jesus Christ, who gave himself to be an atonement for my sins, and is able to save to the uttermost, all that come unto God by him, seeing he ever liveth to make intercession for them, and who, I trust, will not reject me, a returning penitent sinner, when I come to him for mercy; in this hope and confidence, I render up my soul with comfort, humbly beseeching the most blessed and glorious Tri-

nity, one God most holy, most merciful and gracious to prepare me for the time of my dissolution, and then to take me to himself into that peace and rest, and incomparable felicity, which he has prepared for those that love and fear his holy name, Amen, blessed be God. *Imprimis*, I give my body to the earth, from whence it was taken, in full assurance of its resurrection from thence at the last day as for my burial, I desire it may be decent, without pomp, or state, at the discretion of my dear wife, and my executors hereafter named, who, I doubt not, will manage it with all requisite prudence. As to my worldly estate, I will and positively order, That all my debts be paid. *Item*, I give to my dear and loving wife, for term of life, this house wherein I now dwell, with all the furniture, and the lands and tenements that ly about; and after her death, to my only son G. and his heirs and assigns forever; to whom I leave also, from the time of my death, my other two estates situate in the parish of T. the paying for each of his sisters, D. and F. 500*l*. And if he die before them, and without issue, then his land (all but the value of 5000*l*. which I freely empower him to dispose of as he shall think fit) shall descend, and belong equally to those my two daughters. My poor debtors, who owe me some small matters, which, because they are in low condition, and not well able to pay them, I freely remit them all, forgiving such my debtors, as I desire God should forgive my debts for Christ's sake. I give 50*l*. to be distributed according to the discretion of my executors, among such of my neighbours of this parish, as they shall apprehend most to want such assistance, but who do not at present receive alms, nor have any allowance from the parish. I give 50*l*. towards the good work of teaching poor children to read, and to pay their catechism in charity schools. The small remainder of my estate I give to my very good friends and dear and kind relations, G. R. and L. O. to be divided equally between them; and do constitute them executors of this my last will and testament, and trustees for my wife and children. In witness whereof, I have

hercunto set my hand and seal, the 3d day of June, in the year of our Lord, 1762.

Witness, T. B.

R. T.

R. B.

A. B. (L. S.) here I take
off my seal, and do declare
this to be my last will and
testament.

Another WILL.

IN the name of God, Amen. I. A. M. of, &c. being in perfect health (praised be God) do make this my last will and testament as follows. *Imprimis*, I give to my daughter L. M. 20 pounds of, &c. *Item*, I give to my daughter C. M. 50 pounds of like lawful money, and the box in the room where I ly, marked (P. Q.) and all the linen therein, with some other goods, and the rest and residue of my goods and chattels, and personal estates after payment of my debts, legacies, and funeral expences; and unto my son S. M. whom I make sole executor of this my last will and testament, I give, demise and bequeath to him and his heirs, all, and every my messuages, lands, tenements, and hereditaments whatsoever and whereforever, which I also charge with the payment of my said legacies. In witness whereof I have herunto set my hand and seal, the 23d day of June, and in the year of our Lord, 1762.

Sealed, published, and declared by the above named A. M. for and as his last will and testament, in the presence of us,

A. B. C. D. E. F.

Observations concerning WILLS and TESTAMENTS.

THE party who signs and seals a will, is to do it in the presence of three witnesses, who are to set their hands to it (not under three) and it is not much matter whether the witnesses hear the will read or no, so as they hear the party say he acknowledgeth that writing to be his will to which he set his hand and seal; for if they did hear it read, it cannot be supposed that they can remember the contents thereof. A man above fourteen years of age may

make a will of his goods, and a woman about twelve, but neither can will their lands until twenty one years.

If a man dies without a will, and leaves both free lands and goods, his wife will have the third part of the profits of the land, during her life, and the third part of the goods for ever; and the next of kin to the husband the other two third parts. But he that makes a will, and leaves his wife a certain sum to be paid her yearly, during her life, by his executor, should also give her some of his moveable goods.

If a man dies without a will signed, and sealed, leaving many children, the eldest son claims all the land; but, if he leaves daughters only, they will be co-heirs to all free land.

Copy hold land is not given by will, but passed by surrender in court.

To will land to E. F. for ever; or to G. H. and his assigns, this is but for life; but I give and demise unto E. F. his heirs and assigns for ever, so G. H. may sell it.

The word executor, is the name given to him that is to see the will performed; but if it be a woman, she is called in the will executrix.

Set your house in order while you are in health.

For a (will) testament is of force after men are dead, but not before. Heb. ix. 17.

For if a man hath sealed his will and delivered it to a friend to keep, he may make another, which makes the former will void.

The Form of a LETTER of ATTORNEY, to execute a particular business.

K NOW all men by these presents, that I, A. B. of G. in the county of D. yeoman, for divers good causes and considerations, me hereunto moving, have made, ordained, constituted, and appointed, and by these presents, do make, ordain, constitute, and appoint my trusty friend I. K. of M. gent. my true and lawful attorney, for me, in my name, and to my use, to ask, demand, recover

and receive of, and from B. C. of, &c. the sum of &c. giving, and by these presents, granting to my said attorney, my sole and full power, and authority, to take, pursue, and follow such legal courses for the recovery, receiving, and obtaining of the same, as I myself might or could do, were I personally present; and upon the receipt of the same, acquaintances, or other sufficient discharges for me, and in my name, to make, sign, seal and deliver; as also one or more attorney or attorneys under him to substitute and appoint, and again at his pleasure to revoke; and farther to do, perform and finish for me, and in my name, all and every singular thing or things, which shall or may be necessary, touching and concerning the premises, as fully, thoroughly, and entirely, as I the said A. B. in my own person might, or could do, in or about the same: ratifying, allowing, and confirming whatsoever my said attorney shall lawfully do, or cause to be done, in and about the execution of the premises, by virtue of these presents. In witness whereof, I have hereunto set my hand and seal, the 12th day of September, in the 2d year of the reign of our sovereign lord George III. by the grace of God, king of Great Britain, &c. and in the year of our Lord 1762.

Revocation of a Letter of Attorney.

KNOW all men by these presents, that whereas I—
 of—in the county of—, yeoman, upon the trust and confidence which I had in—of—, gent. by letter of attorney under my hand and seal, bearing date—, did make, ordain, constitute and appoint the said—my lawful attorney, for me, and in my name, and to my use, to ask, demand, recover and receive, of and from—of—, bookseller, the sum of—, as thereby more at large may appear: now know ye, that I the said—, for divers good causes and considerations me hereunto moving, have, and by these presents do revoke, disannul and make void the said letter of attorney, and all power and authority, therein to him the said—given. In witness, &c.

Indenture for an Apprentice.

THIS indenture witnesseth, that—son of—, &c. doth put himself apprentice to—, Shoemaker, to learn his art or mystery, and with him after the manner of an apprentice to serve, from the day of the date hereof for and during the term of seven years next ensuing; during all which term, the said apprentice his said master faithfully shall serve, his secrets keep, and all his lawful commands every where gladly do; he shall do no damage to his master, nor see it to be done by others, without letting or giving notice thereof to his said master: he shall not waste his master's goods, nor lend them unlawfully to any. He shall not commit fornication, nor contract matrimony during the said term; he shall not play at cards, dice or any other unlawful game, whereby his master may be damaged, with his own goods, nor the goods of others; he shall not absent himself day or night from his said master's service unlawfully: nor haunt ale houses, taverns, or play houses; but in all things behave himself as a faithful apprentice, in the trade or mystery he now followeth: and the said master shall procure and provide for him sufficient meat, drink, apparel, lodging, washing and all other necessities during the said term. And for the true performance of all and every the said covenants and agreements, either of the said parties bindeth himself unto the other firmly by these presents. In witness whereof, they have interchangeably set their hands and seals herunto, this twentieth day of September, in the second year of the reign of our sovereign lord George III. king of Great Britain, France and Ireland, &c. and in the year of our Lord, 1762.

Letter of Attorney from a Seaman.

NOW all men by these presents, That I—, mariner, now belonging to his majesty's ship the Ann, for divers good causes and considerations me herunto moving, have, and by these presents do make, ordain, con-

stitute and appoint my trully friend——, citizen and baker of Brisfol, my true and lawful attorney for me, and in my name, and for my use, to ask, demand, and receive of and from the right honourable the treasurer, or paymaster of his majesty's navy, and commissioners for prize-money, and whom elie it may concern: as well all such wages, and pay, bounty-money, prize-money, and all other sum and sums of money whatsoever, as now are, and which hereafter shall or may be due or payable unto me: also all such pensions, salaries, smart money, and all other monies and things whatsoever, which now, or at any time hereafter is, or shall be due to me for my service or otherwise in any of his majesty's ship or ships, frigates or vessels: giving and hereby granting unto my said attorney full and whole power to take, pursue, and follow such legal ways and courses for the recovery, obtaining and discharging the said sum and sums of money, or any of them, as I myself might, or could do, were I personally present. And I do hereby ratify, allow, and confirm all and whatsoever my said attorney shall lawfully do, or cause to be done, in and about the execution of the premises, by virtue of these presents. In witness, &c.

A B O N D.

NOW all men by these presents, That I (Robert Scott of the county of Durham, merchant) am held, and firmly bound unto (James Symms of Doncaster, in the county of York, Esq;) in the sum of (Two hundred) pounds of good and lawful money of Great Britain, to be paid to the said (James Symms) his heirs, executors, administrators, or assigns, firmly by these presents. Sealed with my seal. Dated (the first day of June) in the second year of the reign of our sovereign lord (George the third) by the grace of God, king of Great Britain, France and Ireland, defender of the faith, and in the year of our Lord God (One thousand seven hundred and sixty two.)

THE CONDITION.

THE condition of this obligation is such, that if the above bounden (Robert Scot) his heirs, executors or administrators, do well and truly pay, or cause to be paid unto the above mentioned (James Symes) his executors, administrators, or assigns, the full sum of (one hundred pounds) with lawful interest for the same, of good and lawful money of Great Britain, on the (first day of January next) ensuing the date hereof; then this obligation to be void, or else to remain in full force.

Scaled and delivered (being

first legally stamped) in

presence of

F. G.

Robert Scot.

H. I.

¶ When a bond is given in consideration of the value received, the bond is always to be made for double the value in the condition.

What is to be varied, and made agreeable to the circumstances before you, is in those words inserted between ().

A Condition to stand to the Award of Arbitrators.

THE condition of this obligation is such, that if the above bounden (James Sly of Newcastle, merchant) his heirs, executors and administrators, and every of them, do and shall in all things, well and truly stand to, obey, abide by, perform, fulfil, and keep the award, order, arbitrament, final end and determination of (Andrew Mills and James Mills of Bristol, merchants) arbitrators indifferently named, elected, and chosen, as well on the part and behalf of the above bounden (James Sly) as of the above named (James Symes) to arbitrate, award, order, judge, and determine of and concerning all manner of actions, causes, and causes of actions, suits, bills, bonds, specialties, judgments, executions, extents, accounts, debts, dues, sum and sums of money, controversies, trespasses, damages and demands, whatsoever, at any time or times before had, made, moved, brought, committed, sued, pro-

secured, done, suffered, committed, or depending by or between the said parties, so as the award be made, and given up in writing, under their hands and seals, ready to be delivered to the said parties on or before the () next ensuing the date above mentioned:) but if the said arbitrators do not make such an award, of and concerning the premises, by the time aforesaid; and then if the said (James Sly) his heirs, executors, and administrators, for his and their parts and behalf, do in all things well and truly stand to, obey, abide by, perform, fulfil and keep the award, order, arbitrament, umpirage, final end and determination of (John Jack, of Lincoln, Esq;) umpire indifferently chosen between the two parties, to end the said matter and differences, so as the said umpire do make his award and umpirage of, and concerning the premises, and deliver the same in writing under his hand and seal, to the said parties, on or before the () day of) next ensuing the date above said, then this obligation to be void, or else to remain in full force.

Scaled and delivered (being legally stamped) in James Sly, (L. S) presence of, &c.

Notes, Both the parties are in this case to be mutually bound, *mutatis mutandis*; and if there be no umpire admitted of, the latter part of the condition, beginning (But if the said arbitrators) is to be omitted.

The Form of an Umpirage of Award.

TO all people, to whom this present writing shall come; I (John Jack of Lincoln, Esq;) umpire, indifferently chosen between (James Slight, and John Fox, of London, merchants) send greeting; Now know ye, that I the said (John Jack) having deliberately heard, considered, and understood the griefs, allegations, and proofs of both the said parties, and being willing, as much as in me lieth, to set the said parties at unity and good accord, do by these presents, arbitrate, award, order, deem, decree and judge, that the said (James Slight) his executors, admini-

ministrators, or assigns, do, and shall well and truly pay, or cause to be paid, unto the said (John Fox) his executors, administrators, or assigns, the sum of () of lawful money of Great Britain, on the day of next ensuing the date of these presents; and that upon payment thereof, the said (James Slight and John Fox) shall, at their own proper costs and charges, seal, subscribe, and as their several acts and deeds, deliver each to the other, a general release in writing, of all matters, actions, suits, causes of actions, bonds, bills, covenants, contrivances, and demands whatsoever, from the beginning of the world to the (sixteenth day of July last past) and in the (2) year of our sovereign lord (George III.) king of Great Britain, &c. In witness whereof I have hereunto set my hand and seal, the (25th day of June 1762.)

Scaled and delivered (be-

ing, duly stamped) in John Jack. (L. S.)
presence of, &c,

A Letter of Licence to a Debtor.

TO all people, to whom this present writing shall come; we whose names are here under subscribed, and seals affixed, creditors of (D. F. of Bristol, merchant) send greeting. Whereas the said (D F) on the day of the date of these presents, is indebted unto us severally in divers considerable sums of money, which at present he is not able to satisfy unto us, without respite, and time to be given unto him for the payment thereof; Know ye therefore, That we the said creditors, for divers good causes and considerations, us thereunto moving, have given and granted, and by these presents, do give and grant unto the said (D. F.) our sure and safe conduct and free licence, that the said (D. F.) shall, and may lawfully come and go, and resort unto us, and every one of us his said creditors, to compound and take order with us, and every one of us for all and every of our said debts, and to go about any other business to any other person or persons whatso-

ever, without any trouble, suit, arrest, attachment, or other molestation to be offered or done to him, the said [D. F.] his wares, goods, monies, or other merchandizes whatsoever, by us, or any of us, or by the heirs, executors, administrators, partners, or assigns of us, or any of us, or by our, or any of our means or procurement, to be sought or procured to be done, from the day of the date hereof, unto the full end and term of [one whole year] next ensuing. And we the said creditors, whose names are hereunder written, do hereby covenant and grant, and every one of us for his own part, his executors and administrators covenanteth and granteth, to and with the said [D. F.] that if any trouble, wrong, damage, or injury shall be done unto him the said [D. F.] either in his body, goods, or chattels, or any of them, within the said term [one year] next coming after the date hereof, by us or any of us, his said creditors, or by any other person or persons, by or through the procurement, consent, or knowledge of us, or any of us, contrary to the true intent and meaning of this our present writing of safe conduct, that then the said [D. F.] by virtue of these presents, shall be discharged and acquitted for ever, towards and against him and them, of us, his and our heirs, executors, administrators, partners, or assigns, and every one of them, by whom, and by whose means he shall be arrested, troubled and attached, or damaged, of all manner of actions, suits, quarrels, debts, and demands, either in law or in equity, from the beginning of the world, to the day of the date hereof; in witness whereof, we have herunto set our hands and seals the [fourth day of July] Anno Domini 1763.

Scaled and delivered (being first duly stamped)
in presence of, &c.

A. B. [L. S.]
C. D. [L. S.]
E. F. [L. S.]

A BILL of SALE.

K NOW all persons whom it may concern, That I [John Trader of Kendal, in the county of Westmoreland, weaver] for and in consideration of the sum of [One hundred pounds] of lawful money of Great Britain, to me in hand paid, by [Daniel Dike, of London, Esq;] the receipt whereof I do hereby acknowledge, have bargained, sold, and delivered; and by these presents, according to the due form of law, do bargain, sell, and deliver unto the said [Daniel Dike] forty pieces of Kendal cotton, one hundred pairsmen's hose, fifty women's do, fifteen boys' do, sealed up with my seal. - To have and to hold the said bargained premises, unto the said [Daniel Dike] his executors, administrators, and assigns for ever. And I the said [John Trader] for myself, my executors and administrators the said bargained premises unto the said [Daniel Dike] his executors, administrators and assigns, against all persons, shall and will warrant, and for ever defend, by these premises: [If the bargained premises be redeemable, by a limited time, a proviso of this nature is added.] Provided nevertheless, that if I the said [John Trader] my executors, administrators and assigns, or any of us, do and shall well and truly pay, or cause to be paid unto the said [Daniel Dike] his executors, administrators or assigns, the sum of [one hundred and three pounds] as principal and interest, lawful money of Great Britain, on the [thirtieth of October, next ensuing the date hereof] for redemption of the bargained premises; then this present bill of sale shall be void, and of no effect; but if default be made in the payment of the said [one hundred and three pounds] in part or in whole, contrary to the manner and form aforesaid, that then it shall remain and be in full force and virtue: in witness whereof, I have herunto set my hand and seal, the [twenty-sixth day of June] in the year of our Lord [1762.]

Sealed and delivered, &c.

John Trader. [L. S.]

A general Release.

NOW all men by these presents, That I (Thomas Sivens of London, grocer) have remitted, released, and for ever quitted claim, and by these presents, do for me, my heirs, executors and administrators, remise, release, and for ever quit claim unto (Jeremiah Bucks) citizen and mercer of London) his heirs, executors and administrators, all and all manner of actions, causes and causes of actions, suits, bills, bonds, writings obligatory, debts, dues, duties, accompts, sum and sums of money, judgments, executions, extents, quarrels, controversies, trespasses, damages and demands whatsoever, both in law, and equity, or otherways howsoever, which against the said (Jeremiah Bucks) I ever had, now have, and which I, my heirs, executors, and administrators, shall or may have, claim, challenge or demand, for or by reason or means of any matter, cause or thing, from the beginning of the world, to the day of the date of these presents: in witness whereof I have hereunto set my hand and seal, the (twelfth day of July) and in the year of our Lord (1762.) Signed, sealed and delivered (being first legally stamped) &c. Thos. Sivens. (L. S.)

Of Wives, Children and Servants.

THE woman, at her marriage, becomes wholly the man's, together with all her moveable goods, and if goods be given to a married woman, they immediately become her husband's: she cannot lett, sell, give away, or alienate any thing without her husband's consent, nor her very apparel, which at her husband's decease goes to the executor or administrator of her husband (excepting her necessary apparel) which, with the consent of her husband, she may give by will, not otherways by our English laws.

The wife, after her husband's death, having no jointure settled before marriage, may challenge the third part of his yearly rents of free lands, for her life; and also the

thirds of the rents of such free-lands as he sold in his lifetime, if she did not consent to a fine; but she can claim no thirds of such lands as her husband buys when he has sold them again, and dieth, if he puts another person's name in the deed besides himself, when he bought them. But if her husband dieth without a will in writing, leaving no child, she will claim the thirds, as above, and a third part of the goods for ever, and the other two thirds go to the next of his kindred.

But if she be the wife of a freeman of the city of London (she dying without a will, leaving no child as before) she will challenge by law three parts of four of her husband's goods and chattels, and one third of the profits of his free-lands for life, the goods for ever. By a late act of parliament persons since made free are not bound by this law. The husband must answer to his wife's fault; if she wrong another by her tongue or by trespass, he must make satisfaction; and pay the debts that she causeth, except he did before give notice that they should not trust her. This is disputeable.

A woman cannot hope to have the thirds of her husband's land, which he mortgaged before marriage, till the mortgage's paid, and the mortgage is cancelled.

A man and wife are joint purchasers of land, to them and their heirs, and the survivors and heirs: and if the husband dies, the wife may sell the land without the consent of their children.

A woman that kills her husband is to be burnt alive.

If a wife brings forth a child, begotten by another before marriage, but born after marriage, the husband must own the child as heir at law.

A wife cannot be a witness for or against her husband, they two being but one in law.

If a wife brings forth a child during her husband's long absence, though it be some years, yet if he lived all the time within this island, he must father that child; and if that child be her first-born son, he shall inherit the half

Band's estate, if intailed, or left without a will. This has been lately tried, and decided otherwise.

A woman that doth not hear of her husband for seven years together, may marry another man.

If a woman have no sons, but daughters, the lands, as well as goods, are equally divided among the daughters, who are co-heirs.

Man and wife are so fast joined by our law, that they may not be wholly parted by our law, by any agreement between themselves; but only by the sentence of a proper judge, for adultery, &c.

Of Children, Sons and Daughters.

A Father may give all his estate (not intailed) to any one child, the consideration of which keeps some children in awe.

A son at the age of 14, may choose his guardian, be an executor, may consent to marriage (if not an apprentice) may, by will, give his goods and chattels, and become bound in bonds, or covenants, for necessities, food, raiment, schooling, &c.

At the age of 15, he may be sworn to his allegiance to the king.

At 21, he is said to be of full age, may sell land (which in other countries is not till 25) when the heat of youth is somewhat abated, and they begin to be stayed in mind, as well as in growth.

A daughter at seven years may consent to marry, tho' she may afterwards dissent; at nine she may consent to a jointure.

At 12 she is able to confirm her former consent to marriage, and if at that age she dissent not, she is bound: she may at that age make a will of her goods, and become bound for necessities, &c.

At 13 she may receive her lands into her own hands, that are given, or fall to her. At 21 she may let, sell, or will her lands.

The eldest son inherits all his father's lands (if the fa-

ther died without a will) and to the younger children are disposed goods and chattels, and commonly the eldest son's wife's portion.

If a man marry a wife having free land, and she dieth, leaving a child that is heard to cry, tho' it dieth presently, the man shall have the lands for his life. This is called, The courtesy of England.

Of Servants.

Ordinary servants are hired, commonly for a year (whereby they become inhabitants of that parish) at the end whereof they may be free (giving 3 months warning before) and may place themselves with other masters: only it is accounted discourteous and unfriendly to take another man's servant, before leave given by his master; and indiscreet to hire a servant without a certificate of his diligence and faithfulness, in the service of his last master, or somewhat to this effect.

Memorandum, That I, G. D. do certify, that J. B. the bearer hereof, hath been an honest and faithful servant unto me. Witnesses my hand, the 4th of May, 1762.



Forms of RECEIPTS, NOTES, BILLS, &c. necessary to be understood in order to forming the man of business.

Various forms of acquittances, when an apprentice or servant receives money for the use of his master, or employer, &c.

Received the 27th of July, 1762. of Mr Thomas Adams, Nine pounds, twelve shillings, for my master David Stone, on account,

Per James Thomson.

FORMS OF ACQUITTANCES.

75

Received the 6th of September, 1762. of Henry Holland, Fifty eight pounds ten shillings and four pence, in full payment for my maffer Andrew Jones,

Per Matthew Burns.

L. 58 10 4

Received the 24th of August, 1759. of Mr James Johnson and company, Two hundred pounds, for Mr George Bedford and partners,

Per Richard Simpson.

L 200 —

Received the 22d of February, 1762. of the honourable the united East India company, Four thousand pounds fifteen shillings and sixpence, for Mr English and company,

Per Peter Spinks.

L. 4000 16 6

Received the 26th of June, 1762. of the worshipsful company of mercers, Eighty six pounds for my father Christopher Yates,

Per Edward Yates.

L. 86 —

Received the 24th of April, 1762, of Mr Richard Foxcraft, Fifteen pounds, for a quarter's rent due at Christmas last, for my maffer George Gibbons,

Per Isaac Jobson.

L. 15 —

Received the 14th of June, 1762, of Mr Lewis Armstrong, thirty five pounds eight shillings, in part of a bill

of one hundred pounds, payable to Mr Simon Pure or order, due the 10th instant,

Per George Norton,

L. 35 08 —

Received the 29th of February, 1762, of Mr Thomas Laurence, by order of Mr John Kent, the sum of one hundred and fifty pounds six shillings and ten pence, on account of Mr Nathaniel Combs of Appleby : I say received for my masters George Pye and partner,

Per Isaac Taylor,

L. 150 06 10

FORMS OF ACQUITTANCES, upon receipt of money, by masters and men of business themselves.

R Eceived the 16th of June, 1762, of Messrs. Thomas and George Simpson, six hundred and forty pounds on account,

Per William Burnet,

L. 640 — —

Received the 4th of September, 1762, of the honourable William Parrot, Esq; the sum of three hundred and fifty pounds, in full of all demands for self and company,

Per George Dawson.

L. 350 — —

Received the 17th of August, 1762, of Mr James Sims, thirty pounds, in full for interest of twelve hundred pounds due at Midsummer last,

Per Thomas Lewther.

L. 30 — —

Received the 17th of September, 1762, by the order and for the use of Mr Benjamin Blundell, of Mr Stephen

Carr, ten pounds ten shillings, and allowed for taxes and repairs one pound ten, together, the sum of twelve pounds, in full for a quarter's rent, due at Midsummer last,

Per Joseph Rentroll.

L. 12 — —

Received the 23d of June, 1762, of the executors of James late earl of Bath, by the hands of Mr John Thomson, the sum of sixty five pounds twelve shillings, in full for my half year's annuity, due at Lady-day last,

Per Charles Steward.

L. 65 12 —

Received the 1st of June, 1762, of Robert Pringle, Esq; and the other owners of the ship Berwick, the sum of one hundred and eighty pounds ten shillings, in full for cordage, tackle, and trimming, furnished the said ship,

Per Andrew Shipwright.

L. 180 10 —

PROMISSORY NOTES by Bankers Apprentices and Servants.

Bristol, September 7th, 1762.

I Promise to pay to the honourable Charles Snell, Esq; or bearer, on demand, fifty pounds,

For Richard Jones and partners,

Per Anthony Timmons.

L. 50 — —

London, November 20th, 1763.

I promise to pay the royal African company or bearer, on demand, four thousand six hundred and fifty four

pounds thirteen shillings and sixpence, for my masters
George and James,

L. 4664 13 6

Per Adam Eve,

PROMISSORY NOTES for a man's self, &c.

I Promise to pay to Nathaniel Smith, or bearer, on demand, nine hundred pounds, June 2d, 1762.

Per Thomas Hunt.

L. 900 — —

I promise to pay the governors and company of the bank of England, ten thousand pounds, value received this 6th of June 1762, for myself and partners,

Per Israel Jack.

L. 10 000 —

London, August 2d, 1762.

I promise to pay Mr Daniel Pope, cashier of his majesty's revenue of excise, or order, forty days after date, five hundred and thirty pounds, value received,

Per Andrew Cash.

L. 530 — —

I promise to pay Peter Paul, Esq; or the bearer, on demand, four hundred and ninety pounds, value received this 9th of April, 1762.

Per Peter Vernon.

L. 490 — —

I promise to pay to Francis Dove, Esq; or order, the sum of sixty pounds, on demand, after a receipt of a bill of exchange drawn the 9th current, by George Trade, on Henry Menly of Northampton, mercer, for the like sum payable to William Park, Esq; or order, which the

BILLS of DEDT.

79

said Francis Dove has indorsed to me, this 25th of December, 1762.

Per James George.

L. 60 — —

A BILL of DEDT.

K NOW all men by these presents, That I Michael Pool of the county of Durham, gent. do own and acknowledge myself justly to stand indebted to Alexander Anderson of the county of York, haberdasher, the just sum of twenty four pounds, of good and lawful money of Great Britain, and which I do hereby promise to pay unto him the said Alexander Anderson, on the 6th day of April, next ensuing the date hereof. Witnesses my hand this 12th day of September, in the year of our Lord 1762,

Michael Pool.

A N O T H E R.

M Emorandum, That I Thomas Bell, of the parish of St. Ambrose, salter, do owe and am indebted to James Pures of the said place, mercer, the sum of sixty pounds of good and lawful money of Great Britain, which sum I promise to pay to the said James Pures, his executors, administrators, or assigns, on or before the 23d day of October next. In witness whereof I have hereunto set my hand and seal, the 27th day of June, in the year of our Lord 1762,

Thomas Bell. (L. S.)

Signed, sealed, and delivered,
(being first legally stamped)

in presence of John Thomson.

Michael Wearworth.

A promissory note, mentioning order, is indorseable from one person to another, which is done by the present possessor's writing his name on the back of it, and delivering it up to the party, to whom he intends to assign over his property therein.

The delivering up a promissory note to the person who signed it, is a sufficient voucher of its being paid, nor is there need of writing a receipt thereon.

Promissory notes, and book debts, if not legally demanded in the space of six years, cannot be recovered by law upon the debtor's pleading the statute, but they are recoverable in chancery.

If you keep a promissory note on demand, in your own hands above three days, and the person it is upon should fail, the loss will be your own; but if he fail within three days, it will light in equity on the person that paid it you.

PROMISSORY NOTES.

Borrowed and received of John Derby, Esq; seventy pounds, which I promise to pay to him, or order, on demand. Witness my hand this 25th of September 1762.

Per John Jones.

L. 70 — —

Borrowed and received of Mr Timothy Trusty, thirty pounds, which I promise to pay to him, or order, three months alter date. Witness my hand this 14th of August, 1762,

Per Roger Dods.

L. 30 — —

I promise to pay to James Forrester, Esq; or order, two hundred pounds eighteen shillings, on demand, value received. Witness my hand this 17th day of July, 1762,

Per Roger Cook.

L. 200 18 0

N. B. Observe in promissory Notes, that the value received is mentioned, or they are of no force.



ARITHMETIC.

AFTER you are compleat in writing, you next proceed to arithmetic, the knowledge of which is so necessary, that scarce any thing in life, and nothing in trade, can be done without it.

And first of notation and numeration.

In notation we may observe that all numbers may be, and now generally are expressed by, or compos'd of the ten figures or characters following, viz.

One,	two,	three,	four,	five,	six,	seven,	eight,	nine,	cypher.
1	2	3	4	5	6	7	8	9	0

Nine of these are called significant figures, to distinguish them from the cypher, which itself signifies nothing; but as it is placed (in whole numbers) serves to increase the value of the next figure or figures that stand before it; as 3 is but three; but before the cypher thus, 30, the 3 becomes three, &c. — We are to note, that every one, or any of the above nine figures or digits have two values, one certain, and another uncertain: the certain value is, when it stands alone by itself: the uncertain is, when joined or placed with other figures or cyphers: for when any one of these figures stands alone, it signifies no more than its own simple value: as 5 is but five, 4 but four, 6 is but six, and 3 no more than three, &c. And this is the certain value of a figure; but when another figure or cypher is annexed, then they are increased in their value ten times; as 5, or five unity, or ones, to five tens, or fifty, 4 to 4 tens or forty, 6 to 6 tens, or sixty, and 3 to 3 tens, or thirty, as thus, 51, fifty one: 42, forty two: 63, sixty three: 34, thirty four, &c. Again, if any of the said

For the easier reading of any number, first get the words at the head of the table by heart; as units, tens, hundreds, thousands, &c. and applied thus, 75, five units, five, and 7 tens, seventy, that is, seventy five. Again, 678; 8 units, eight, 7 tens, seventy; and six hundred, six hundreds; that is, six hundred and seventy eight. Once more, 3456; 6 units, six; 5 tens, fifty; 4 hundreds, four hundred; 3 thousands, three thousand; together, three thousand four hundred and fifty six. Read the 4th line of the table downwards, viz. 123456789; here the valuation of the figures is from the right hand to the left, as 1 in the ninth place is hundreds of millions, but to be read from the left hand to the right; thus, one hundred twenty three millions, four hundred fifty six thousand, seven hundred and eighty nine. But any number may yet be read more intelligibly, viz. by stops, thus; make a comma at every third figure or cypher, beginning at the right hand, and so on towards the left, making a stop after every third figure or cypher, as aforesaid, thereby distinguishing every third place into hundreds, as hundreds of units, hundreds of thousands, hundreds of millions, and hundred thousands of millions, &c. and for trial let us read the first line of the table: the last place of valuation is hundred thousands of millions, and to be pointed into periods thus, 123,456,789,012; and read thus; one hundred twenty three thousand, four hundred fifty six millions, seven hundred eighty nine thousand and twelve; that is no hundreds, but twelve. Again, read the following number, viz. 276,245,678,921,460; here the first point or period is betwixt 4 and 1, and the last betwixt 2 and 6, and to be read thus; 276 millions of millions, 245 thousands of millions, 678 millions, 921 thousands, 460 units or tens. And thus may any number be read with ease, tho' a large one; and thus are large numbers or sums expressed, or set out in the exchequer, bank and lottery tickets, &c. as thus, No. 225,156—19,478—and 42,000, &c. The foregoing table of numeration is on the

right hand distanced out into periods, for the easier reading thereof.

Numbers to be read and written.

96, Ninety six	
242, Two hundred forty two	
7924, Seven thousand nine hundred 24	
54006, Fifty four thousand and six	
524207, Five hundred twenty four thousand 207	
4606240, Four millions 606 thousand 240	
62700472, Sixty two millions 700 thousand 472	
474960204, Four hun. 74 millions 960 thous. 204	
4214007042, Four thous. 214 millions 7 thous. 42	
400706430042, Four hundred and 70 thousand, 706 millions, 420 thousand and 42.	

Of numerical letters.

Sometimes numbers are expressed by letters: especially in the bible; to signify the chapter or psalm; at the bottom of a title page of books for the date of the year, and frequently in inscriptions of funeral monuments, &c. for which reason 'tis necessary to know how to read them. Therefore observe, that I stands for 1, or one unit, II. for 2. III. for 3. IV. for 4. V. for 5. VI. for 6. VII. for 7. VIII. for 8. IX. for 9. X. for 10. XI. for 11. XII. for 12. XIII. for 13. XIV. for 14. XV. for 15. XVI. for 16. XVII. for 17. XVIII. for 18. XIX. for 19. XX. for 20. XXI. for 21. &c. XXX. for 30. XXXI. for 31. &c. XL. for 40. XLV. for 45 &c. L. for 50. LI. for 51. &c. LX. for 60. LXI. for 61 &c. LXX. for 70. LXXI. for 71. &c. LXXX. for 80. LXXXI. for 81. &c. XC. for 90. XCI. for 91. &c. C. for 100. CC. for 200. CCC. for 300. CCCC. for 400. D. or 17. for 500. DC. for 600. &c. M. for 1000 &c. Thus the present year 1772. is wrote MDCCCLXXII.

A D D I T I O N.

IS the putting together two or more numbers or sums in order to make them one total or whole sum.

ARITHMETIC

85

Here we must always observe to set the numbers to be added orderly one under the other, that is, units under units, tens under tens, hundreds under hundreds, &c. as in the subsequent examples.

Addition of numbers of one denomination.

Yards	Gallons	Pounds
Tens	Units	Thous. Hund. Tens Units
24	756	57762
46	532	39944
68	478	67222
82	696	79674
24	422	02462
42	678	00390
286	3562	247454

In addition of simple numbers, whether it be yards, gallons, pounds, or any thing else, remember to carry 1 for every ten you find in the row or rank of figures, being units, to the next row of tens; and the like from the rank of tens to the row of hundreds, &c. and whatever it makes in the last, you must set it down, amount to what it will.

Thus:

The numbers above are set down in order, as before directed; that is, units under units, tens under tens, &c. as may be plainly understood, by being indicated at the head of each row or rank with units, tens, hundreds, &c. Then in casting up each example, to know its total, I begin at the right hand, or units rank, of the first example, and say 2 and 4 is 6, and 2 is 8, and 8 is 16 and 6 is 22, and 4 is 26; in which row there are two tens and 6 over: wherefore I set down 6 just under its own rank, and carry 2 to the next or last row, and say, 2 that I carried and 4 makes 6, and 2 is 8, and 8 is 16, and 6 is 22, and 4 is 26, and it being the last row, I set down the amount, viz. 28; so that the total number of yards is found to be (by the method) at the bottom 286. And

H

the next, or second example, is found by the same method to be 3562 gallons. And in the third and last example, the total number of pounds is found to be 247454, and so the total of any other example of the same kind, viz. simple numbers of one denomination, may be found. Note, that when any of the ranks amount to just 10, 20, 30, 40, 50, &c. then you must set down the 0. under its proper rank, and carry either 1, 2, 3, 4, or 5, according to the number of tens that you find, to the next row; and so you must always do, when it so happens, whether in the first, second or third row, or any other except the last, where what it amounts to must be set down without any reserve or carriage in the mind, because there is no other row or rank to carry to, as was hinted before.

Addition of Mixed Numbers.

Observe, 4 farthings make 1 penny, 12 pence make 1 shilling, 20 shillings make one pound sterling.

Libra in Latin signifying a pound, *l.* therefore stands for pounds.

Solidus in Latin signifying a shilling, *s.* therefore stands for shillings.

Denarius in Latin signifying a penny, *d.* therefore stands for pence.

Quadrans in Latin signifying a farthing, *q.* therefore stands for farthings.

Observe that pounds be set directly under pounds, shillings under shillings, pence under pence, and farthings under farthings.

But before you proceed, get this table of pence by heart thus, 30*d.* is half-a-crown, then 60 *d.* is 5*s.*, again 40*d.* is 3*s.* 4*d.* then 80*d.* is 6*s.* 8*d.* again, 50*d.* is 4*s.* 2*d.*, then 100*d.* is 8*s.* 4*d.* &c. 100*lb* of cheese at 3*d.* the *lb.* comes to three times 8*s.* 4*d.* or 100 faggots, 120 to the hundred, at 1*d.* a piece, comes to 10*s.* in the table.

d.	s.	d.	s.	l.	s.
20	1	8	30	1	10
30	2	6	40	2	00
40	3	4	50	2	10
50	4	2	60	3	00
60	5	0	70	3	10
70	5	10	80	4	00
80	6	8	90	4	10
90	7	6	100	5	00
100	8	4	110	5	10
110	9	2	120	6	00
120	10	0	130	6	10

Then for every crown that a hundred of faggots cost, reckon an halfpenny; if the faggot costs me three halfpence, one hundred will cost 15s. because there are three crowns in it.

Note. That young men may improve themselves very much in reckoning up divers things, after they have by heart the table aforesaid, and learning this rule of addition.

An hundred yards of tape at one penny the yard, the table tells you comes to 8s. 4d.

An hundred yards of fencing at one penny halfpenny the yard.

In the table 100d. is - - - 8s. 4d.
And half the sum is - - - 4s. 2d.

Answer 12s. 0d.

If one pound of any thing costs 7d. halfpenny, what will 200lb. weight cost after that rate: performed by addition thus,

200 fixpences makes 100s.	l.	s.	d.
80 fixpences make - - -	5	—	—
200 pence - - -	2	—	—
80 pence is a noble, or - - -	16	8	—
200 half pence is 100 pence, or - - -	6	8	—
80 halfpence make 40 groats, or - - -	8	4	—
	3	4	—

Price of the goods & 15 0

Note, now you have by heart the table of pence, you

may call up any sum of money without dotting, for when you know the number of pence, you may by this table know how many shillings to carry to the shilling place, and for the number of shillings in the row of shillings you know that 70s. is 3*l*. 10s.

(10)	(20)	(12)	12 set over the pence, shews that
1.	5	d.	for every 12 I find in the pence row
17	16.	1	I am to carry 1 to the shillings; for
20	11.	7.	so many 20s. as I find in the shillings
23	18.	9.	row, 1 to the place of pounds as afore-
73	17	10	said.

But the easiest way of casting up this sum (for the young learner) is by using dots, thus:

136 4 3

Beginning at the pence; I say 10*d*. and 9*d*. is 19*d*. wherefore against the 9 I set a dot for 12*d*. (or you may make your dots on waste paper) and what is more or above 12 I carry to the next figure, viz 7, and it makes 14, where I set a dot also for 12, and carry the remaining 2 to 1 on the top, which makes 3, which 3*d*. I set between the lines, as you see in the example.

Next, I look how many dots there are, and find 2, which I carry to the row of shillings, saying 2 that I carry and 17 is 19, and 10 is 37, where against the 18 I set a dot for 20*s*. or 1*l*. and carry the odd 17*s*. upwards saying, 17*s*. I carry and 11 is 28, where I set a dot against the 11 for another 20*s*. and carry the remaining 8 to the 16 on the top, saying 8 I carry and 16 makes 24, where I set down a dot for 20*s*. and set between the lines the remaining 4, under the row of shillings.

Note, that you may sum up the shillings row without dotting, thus, saying, 2*s*. that I carry from the place of pence, and 7 is 9, and 8 is 17, and 1 is 18, and 6 is 24, and 10 is 34, and 10 is 44, and 10 is 54, and ten is 64, that is 3*l*. 4*s*. then the 4*s*. being set between the lines, the 3*l*. is to be carried to the pounds.

Lastly, The 3 dots for the 3*l*. found in the place of shillings, I carry to the pounds, saying, 3 that I carry, and 3

is 6, and 3 is 9, and 7 on the top makes 16, the remaining 6 I set between the lines, under the first row of the pounds, and I carry 1 to the last row, saying, 1 that I carry, and 7 is 8, and 2 is 10, and 2 is 12, and 1 is 13, which being set between the lines, the whole sum comes to 13*6l.* 4*s.* 3*d.*

Note, That when you are to write a bill of several small parcels, begin it in order of pounds, shillings, and pence, 0 3 9, and when you are to set down 1*6d.* set down 1*s.* 4*d.* or to set down 23*s.* you must set 1*l.* 3*s.* 0*d.*

If a man owes me the three following sums of money, what come they to in the whole?

<i>l.</i>	<i>s.</i>	<i>d.</i>	Note, That the $7\frac{1}{2}d.$ is seven pence
202	17	$7\frac{1}{2}$	halfpenny; and $1\frac{1}{2}d.$ is one penny far-
703	1	9	thing; and in the total sum between
906	10	$1\frac{1}{2}$	the lines $5\frac{1}{2}d.$ is five pence three far-
			things.

1812 9 $5\frac{1}{2}$ To call up the three sums I do thus, the $\frac{1}{2}$ which is the farthing, and the $\frac{1}{2}$ the halfpenny, make $\frac{3}{4}$ or three farthings, which is set between the lines; next 1*d.* and 9*d.* is 10*d.* and 7*d.* is 17*d.* where against the 7 is set a dot for 12*d.* and set the odd 5*d.* between the lines.

Next, 1 that I carry from the place of pence and 10*s.* is 11, and 1 is 12, and 17 is 29*s.* I set down the remaining 7*s.* between the lines, and the 29*s.* making 1*l.* I carry to the place of pounds;

Saying, 1 that I carry and 6 is 7, and 3 is ten, and 2 is 12, where I set a dot for 10, and set the remaining 2 between the lines.

Next, I carry the dot for 10, as 1 to the middle row (being all cyphers) and proceed to the last row;

Saying, 9, and 7 is 16, and 2 at the top is 18, which I set between the lines, and the whole sum comes to 1812*s.* $5\frac{3}{4}d.$

A R I T H M E T I C. Addition of Money.

Money owing and money received, as follows.

(1)				(2)			
Owing to				Received from			
Mr	l.	s.	d.	Mr	l.	s.	d.
Mr	4	12	6	Mr	46	10	9
Mr	6	06	9	Mr	79	16	8
Mr	4	12	0	Mr	42	18	3
Mr	6	17	7	Mr	66	12	4
Mr	5	06	6	Mr	90	16	9
Mr	4	12	3	Mr	84	17	6
Mr	6	00	0	Mr	24	12	0
Mr	5	15	4	Mr	60	10	0
45 02 11				496 12 10			

I begin and say, 4 and 3 is 7, and 6 is 13, and 7 is 20, and 9 is 29, and fix makes 35*d*. now 30*d*. according to the table, is 2*s*. 6*d*. and 5*d* makes 2*s*. 11*d*. I set down 11 exactly under the rank of pence, and say, 2*s* that I carry (which I do to the rank of shillings) and 5 is 7, and 2 is 9 (for I only take the unit rank of shillings) and 6 is 15, and 7 makes 22, and 2 is 24, and 6 is 30, and 2 makes 32; and now being come to the top of the sum, and it making 32, I come down with the tens of shillings, saying, 32 and 10 is 42, and 10 is 52, and 10 is 62, and 10 is 72, and 10 makes 82*s*. and the table telling me that 80*s*. is 4*l*. I know therefore 82*s*. is 4*l* 2*s*. wherefore I set down the remaining 2*s*. just under the row of shillings, and carry 4 to the pounds, saying, 4 that I carry, and 5 is 9, and 6 is 15, and 4 is 19, and 5 is 14, and 6 is 30, and 4 is 34, and 7 is 41, and 4 is 45*l* so that the total of these several sums of money due to those several persons, amounts to 45*l*. 2*s*. 11*d*. as in the example.

In the second example of money received, I begin at the right hand, and say, 6 and 4 is 10, and 3 is 13, and 9 makes 22, and 22*d* being 1*s*. 10*d*. I set down 10, and carry one to the shillings, saying, 1 that I carry and 2 is 3, and 7 is ten, and 6 is 16, and 2 is 18, and 8 is 26, and 6 makes 32; then I come down with the tens, saying, 32

ARITHMETIC.

89

and 10 makes 42, &c. and I find at the bottom it comes to 112s. which making 5*l*. 12*s*. I set down 12*s*. and carry 5*l*. to the pounds, saying, 5 that I carry and 4 is 9, &c. I find at the top it amounts to 36, wherefore I set down 6 exactly under its own rank, viz. the rank of units or pounds, and carry 3 for the tens that are in 30 (for at all times in the first denomination of addition, whether of money, weight, or measure; that is in the denomination of pounds, tens, or yards, you must call them up as sums of one denomination; that is, for every ten carrying 1 to the next, &c.) saying, 3 that I carry, and 6 is 9, and 2 is 11, and 8 is 19, &c. and I find then at the top it comes to 49; wherefore I set down 39 before the 6, and the total amounts to 49*6l*. 12*s*. 10*d*.

A Table of English Coins.

Of Gold.

A Jacobus,	l. s. d.
A Carolus,	{ 0—5—0
A Guinea,	{ 1—3—0
A half Guinea,	{ 1—1—0
	{ 0—10—6

Of Silver.

A Crown,	{ 0—5—0
A half Crown,	{ 0—2—6

The names of the rest speak their value, as a shilling, a sixpence, a groat or 4*d*. a threepence, a twopence, a penny.

A halfpenny.	Of Copper.	A farthing.
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Besides the above-mentioned, we have still in use the names of some other pieces, which are now but imaginary, viz.

A Mark,	{	Value	{ 0—13—4
An Angel,			{ 0—10—0
A Noble,			{ 0—6—8

Of Troy weight.

The least fraction or denomination of weight used in England, is a grain of wheat gathered out of the middle of the ear, and well dried; from whence are produced those following tables of weight, called Troy weight.

32 Grains of wheat	{	{	24 Artificial grains
24 Artificial grains			
20 Penny weight			
12 Ounces	{ 1 Pound		

And therefore,

lb.	oz.	pw.	grains.
1—	12—	20—	24—
1—	22—	240—	5760—
1—	20—	20—	480—
1—	24—		

Troy weight serveth to weigh bread, gold, silver and electuaries. It regulateth and prescribeth a form how to keep the money of England at a certain standard. The goldsmiths have divided the ounce Troy weight into other parts, which they generally call mark weight. The denominative parts thereof are as followeth, viz. a mark (being an ounce Troy) is divided into 24 equal parts, called carrets, and each carret into 4 grains; so that in a mark are 96 grains. By this weight they distinguish the different firmness of their gold; for if to 22 carrets of gold be put 2 carrets of alloy (which is silver, copper, or other baser metal, with which they use to mix their gold or silver to abate the fineness thereof) both making when mixed but an ounce or 24 carrets, then this gold is said to be 22 carrets fine; for if it comes to be refined, the 2 carrets of alloy will fly away, and leave only 22 carrets of pure gold: the like to be considered of a greater or lesser quan-

city. And as the fineness of the gold is estimated by carrets, so the fineness of silver is distinguished by ounces; for if a pound of it be pure, and lozeth nothing in refining, such silver is said to be 12 ounces fine; but if it lozeth anything, it is said to contain so much fineness as the loss wanteth of 12 ounces; as if it lost 1 ounce 14 penny weight, then it is said to be 10 ounces 6 penny weight fine, and that which lozeth 2 ounces 4 penny weight 16 grains, is said to be 9 ounces 15 penny weight 8 grains fine, &c. the like to be understood of a greater or less quantity.

Of apothecaries weight.

The apothecaries have their weights deduced from Troy weight, a pound of Troy being the greatest integer; a table of whose division and subdivision followeth, viz.

And therefore,

12 Ounces	}	make	1 Pound	}	1 Ounce	1—12—96—288—5760
8 Drams			1 Dram		1—8—24—480	
3 Scruples			1 Scruple		1—3—60	
20 Grains					1—20	

	lb.	oz.	sc.	dr.	gr.
	1	12	8	3	20

Thus much concerning Troy weight, and its derivative weights, which, as was said before, serveth to weigh bread, gold, silver, and electuaries. Now, besides Troy weight, there is another kind of weight used in England, commonly known by the name of avoirdupois weight (1 pound of which is equal to 14 ounces, 12 penny weight Troy weight): and it serveth to weigh all kind of grocery wares, as also butter, cheese, flesh, wax, tallow, rosin, pitch, lead, and all such kind of garble; the table of which weight is, as followeth.

ARITHMETIC.

94	Quarters of a dram	1	Dram
16	Drams	1	Ounce
16	Ounces	1	Pound
28	pounds	1	Quarter of a hundred
4	Quarters	1	Hand. wt. or 112 lb.
20	Hundred	1	Tun

Tun.	C.	qrs.	lb.	oz.	dr.	grs.
1	20	4	28	16	16	4
1	20	80	2240	25846	57344c	2293760
1	4	112	1792	28673	114688	
1	28	448	7168	28672		
1	16	256	1024			
1	16					
1						

Wool is weighed with this weight, but only the divisions are not the same, a table whereof followeth.

A table of the denominative parts of wool weight.

7	Pounds	1	Clove
2	Cloves	1	Stone
2	Stones	1	Todd
6	Todd	1	Wey
2	Weys	1	Sack
12	Sacks	1	Last

Last.	sack.	wey.	todd	stone.	clove.	lb.
1	12	2	6½	2	2	7
1	12	24	156	312	624	4368
1	2	13	26	52	364	
1	6½	13	26	182		
1	2	4	28			
1	2	14				
1		2				

Note, That in some counties the wey is 256lb. avoirdupois, as the Suffolk wey; but in Essex, there is 336lb. in a wey.

The least denominative part of liquid measure is a pint, which was formerly taken from Troy weight (1 pound of wheat, Troy weight, making a pint of liquid measure); but in regard of the difference between the brewers and farmers of his majesty's excise, concerning the gauging of vessels, occasioned by the different opinions of artists concerning the solid inches in a beer gallon, it was lately decided by act of parliament; the statute now making 282 solid inches in a beer gallon, and 231 in a wine gallon; and consequently the pint beer measure to contain $35\frac{1}{2}$ solid inches, and the pint wine measure to contain 28 $\frac{7}{8}$ cubical or solid inches. From whence is drawn the following table.

A table of liquid measure.

35 $\frac{1}{2}$ Cubical inches	1 Pint beer measure
28 $\frac{7}{8}$ Cubical inches	1 Pint wine measure
2 Pints	1 Quart
2 Quarts	1 Pottle
2 Pottles	1 Gallon
8 Gallons	1 Firkin of ale, soap, or herring
9 Gallons	1 Firkin of beer
10 Gallons and a half	1 Firkin of sadgon or eels
2 Firkins	1 Kilderkin
2 Kilderkins	1 Barrel
42 Gallons	1 Tierce of wine
63 Gallons	1 Hoghead
2 Hogheads	1 Pipe or butt
2 Pipes or butts	1 Tun of wine

And therefore,

<i>Tuns.</i>	<i>pipers.</i>	<i>hhd's.</i>	<i>gall.</i>	<i>pints.</i>
1	2	2	63	8
1	2	4	252	2016
1	2	2	126	1008
1	63	504		
1	8			

The least denominative part of dry measure is also a pint, and this is likewise taken from Troy weight: the table of whole division followeth.

The table of dry measure.

1 Pound Troy	1 Pint
2 Pints	1 Quart
2 Quarts	1 Poitile
2 Poitiles	1 Gallon
2 Gallons	1 Peck
4 Pecks	1 Bushel
4 Bushels	1 Comb
2 Combs	1 Quarter
4 Quarters	1 Chaldron
5 Quarters	1 Wey
2 Weys	1 Last

And therefore,

<i>Last. wey. qrt. com. bush. pecks. gall. pints.</i>						
1—2—5	2	4	4	2	8	
1—2—10	20	80	320	640	5120	
1—5—10	40	160	320	2560		
1—2—8	32	64	512			
1—4—16	32	256				
1—4—8	64					
1—2—16						
1—8						

The least denominative of long measure is a barley corn well dried, and taken out of the middle of the ear; whole table of parts followeth.

3 Barley corns	}	1 Inch
12 Inches		1 Foot
3 Feet		1 Yard
3 Feet, 9 inches, or a yard and a quarter }		1 Ell English
6 Feet		1 Fathom
5 Yards and a half	}	1 Pole, perch or rood
30 Poles or perches		1 Furlong
8 Furlongs		1 English mile

And therefore,

<i>Mile furl. poles yards feet inches barley corns.</i>			
1—8—	40—	5½—	3—12—3
1—8—320—1750—5280—63360—190080			
1—40—	220—	660—	7920—23760—
1—5½—	16½—	198—	594—
1—3—	36—	108—	
1—12—	36—		
1—	3—		

And note, that the yard, as well as the ell, is usually divided into 4 quarters, and each quarter into 4 nails.

Note also, that a geometrical pace is 5 feet; and there are 1096 such paces in an English mile.

The parts of the superficial measure of land, are such as are mentioned in the following table, viz.

A table of land measure.

40 Square-poles or perches	}	2½	{	1 Rood or quarter
4 Roods		10		of an acre
				1 Acre

By the foregoing table of long measure, you are informed what a pole, or, which is all one, a perch, is; and by this, that 40 square perches is a rood. Now, a square perch is a superficies very aptly resembled by a square trencher, every side thereof being a perch of 5½ yards in length, 40 of them is a rood, and 4 roods an acre; so that a superficies that is 40 perches long and 4 broad is an acre of land, the acre containing in all 160 square perches.

The least denominative part of time is 1 minute, the greatest integer being 1 year, from whence is produced the following table.

Table of time.

60 Minutes	{	1 Hour
24 Hours		1 Day
7 Days		1 Week
4 Weeks	{	1 Month
13 Months, 1 day, 6 hours		1 Year

But the year is usually divided into 12 unequal calendar months; whose names, and the number of days they contain, follow, viz.

Days.	
January	31
February	28
March	31
April	30
May	31
June	30
July	31
August	31
September	30
October	31
November	30
December	31

So that the year containeth 365 days and 6 hours, but the 6 hours are not reckoned, but only every 4th year; and then there is a day added to the latter end of February, and then it containeth 29 days, and that year is called leap year, and containeth 366 days.

365

And here note, that as the hour is divided into 60 minutes, so each minute is subdivided into 60 seconds, and each second into 60 thirds, and each third into 60 fourths &c.

The tropical year, by the exactest observation of the most accurate astronomers, is found to be 365 days, 5 hours, 49 minutes, 4 seconds, and 21 thirds.

The following example will make this rule plain to the learner. Thus these following sums being given to be added, viz. 136l. 13s 4d. 2 qrs and 79l. 7s. 10d. 3 qrs.

and 33*l*. 18*s*. 9*d*. 1*qr*. and also 15*l*. 9*s*. 5*d* *cqrs*. the numbers being disposed according to order will stand as in the margin. Then begin at the de-

nomination of farthings, and add them	1.	s.	d.	qrs.
up; saying 1 and 3 are 4 and 2 makes 6.	136	13	4	2
Now, I consider that 6 farthings are	79	7	10	3
a penny and 2 farthings; wherefore I	33	18	9	1
set down the 2 farthings in its place un	15	9	5	0
der the line, and keep 1 in mind to be				

added to the next denomination of 265 9 5 2 pence. Then I go on, saying, 1 that I carried and 5 are 6, and 9 are 15, and 10 are 25, and 4 are 29. Now I consider, that 29 pence are 2 shillings and five pence; therefore I set the 5 pence in order under the line, and keep 2 in my mind for 2 shillings, to be added to the shillings. Then I go on, saying, 2 that I carried and 9 are 11, and 18 are 29, and 7 are 36, and 13 are 49. Then I consider that 49 shillings are 2 pounds and 9 shillings; wherefore I set the 9 shillings under the line, and carry 2 for the 2 pounds to the next and last denomination of pounds; and proceed, saying, 2 that I carried and 5 makes 7, and 3 are 10, and 9 are 19, and 6 are 25. Then I set down 5, and carry 2 for the 2 tens, and proceed; saying, 2 that I carried and 1 are 3, and 3 are 6, and 7 are 13, and 3 makes 16. And I set down 6, and carry 1 for the 10, and go on; saying, 1 that I carried and 1 are 2; which I set in its place under the line, and the work is finished. And thus I find the sum of the foregoing numbers to be 265*l* 9*s*. 5*d*. 2*qrs*. This to the ingenious practitioner is sufficient. But I shall for the further illuminating of the weaker apprehensions, explain the operation of another example in Troy weight. And here the learner must take notice of the table of Troy weight mentioned before. The numbers given in this example are, 38*lb*. 7*oz*. 13*pw*. 18*gr*. and 50*lb*. 10*oz*. 10*pw*. 12*gr*. and 42*lb*. 8*oz*. 5*pw*. 16*gr*. And in order to the addition thereof, I place them as you see, and proceed to operation; saying, 16 and 12 are 28, and 18 are 46.

Now, because 24 grains make 1 penny weight, 46 grains are 1 penny weight and 22 grains; wherefore I set down 38 *lb.* 7 *oz.* 13 *gr.* 22, and carry 1 for the penny weight: 50 10 10 12 and going on, I say, 1 that I carry and 42 8 5 16 5 are 6, and 10 are 16, and 13 are 29; —————

which is 1 ounce and 9 penny weight. 132 2 9 22 I set down 9 in its place under the

line, and carry one to the ounces; saying, 1 that I carry and 8 are 9, and 10 are 19, and 7 are 26 And because 26 ounces make 2 pounds, 2 ounces, I set down 2 for the ounces, and carry 2 to the pounds, going on, 2 that I carry and 2 are 4, and 8 makes 12; that is 2 and 80 1: then 1 I carry and 4 are 5, and 5 are 10, and 3 makes 13; which I set down as in the margin, and the work is finished: and I find the sum of the said numbers to amount to 132*lb* 2*oz.* 9*pw.* 22*gr.* This is sufficient for the understanding the following examples, or any other that shall come to thy view. The way of proving these, or any sum in this rule, is shewed immediately after the ensuing examples.

Addition of Troy weight.

<i>lb.</i>	<i>oz.</i>	<i>pw.</i>	<i>gr.</i>	<i>lb.</i>	<i>oz.</i>	<i>pw.</i>	<i>gr.</i>
15	7	13	12	145	9	12	18
18	6	4	20	726	8	14	10
11	10	16	18	389	7	6	13
9	4	10	22	83	10	16	20
19	11	18	4	130	0	10	12
22	0	0	0	74	7	18	0

Addition of apothecaries weight.

<i>lb.</i>	<i>oz.</i>	<i>dr.</i>	<i>sc.</i>	<i>gr.</i>	<i>lb.</i>	<i>oz.</i>	<i>dr.</i>	<i>sc.</i>	<i>gr.</i>
48	7	1	0	14	60	3	4	0	10
74	5	5	2	10	48	10	6	0	14
64	10	7	1	11	34	8	2	1	15
17	8	1	0	16	18	11	2	2	11
34	9	6	1	9	160	7	1	2	15
					35	2	5	1	7
240	5	6	1	0	358	7	7	0	12

Addition of avoirdupois weight.

<i>Tuns.</i>	<i>C. qrs. lb.</i>	<i>lb.</i>	<i>oz.</i>	<i>dr.</i>
75	13	1	15	36
48	7	3	21	22
60	11	1	17	11
21	7	0	25	15
12	16	0	11	20
				106
218	17	0	5	13
				0

Addition of liquid measure.

<i>Tuns.</i>	<i>pipe.</i>	<i>hhd.</i>	<i>gall.</i>	<i>Tuns.</i>	<i>hhd.</i>	<i>gall.</i>	<i>pints.</i>
45	1	1	48	30	3	40	4
15	0	1	17	12	0	28	6
38	0	0	47	47	5	60	5
12	1	0	56	57	3	22	3
21	1	1	18	17	0	0	0
133	0	1	60	168	1	26	2

Addition of dry measure.

<i>Chald.</i>	<i>qrs.</i>	<i>bu.</i>	<i>sh.</i>	<i>pec.</i>	<i>qrs.</i>	<i>bu.</i>	<i>sh.</i>	<i>pec.</i>	<i>gall.</i>
48	3	7	3	3	17	3	1	1	1
13	1	4	0	0	50	1	3	0	0
54	0	6	2	2	14	5	3	1	1
16	3	6	1	1	40	2	0	1	1
40	1	0	1	1	30	0	3	0	0
173	3	0	3	1	152	5	3	1	1

Addition of long measure.

<i>Yards.</i>	<i>qrs.</i>	<i>nails.</i>	<i>Ells.</i>	<i>qrs.</i>	<i>nails.</i>
35	3	3	47	1	3
14	1	2	13	3	2
74	2	3	48	2	1
38	0	1	50	1	0
30	1	0	74	0	2
15	0	0	17	1	0
208	1	1	260	0	0

13

Addition of land measure.

<i>Acrs rods perches</i>			<i>Acrs rods perches</i>		
12	3	18	86	1	36
14	0	24	47	3	24
30	2	19	73	2	18
48	3	30	60	0	7
28	1	38	4	2	8
50	3	26	14	1	14
185	3	35	286	3	27

The proof of addition.

Addition is proved after this manner. When you have found out the sum of the number given, then separate the uppermost line from the rest with a stroke or dash of the pen, and then add them all up again as you did before, leaving out the uppermost line; and having so done, add the new invented sum to the uppermost line you separated; and if the sum of those two lines be equal to the sum first found out, then the work was

performed true, otherways not. As *l. s. d. qrs*
 for example: let us prove the first ex. $\begin{array}{r} 136\ 13\ 4\ 2 \\ \hline \end{array}$
 a sum of addition of money, whose sum we found to be *265l 9s. 5d. 2qrs.* and which we prove thus. Having separated the uppermost number from the rest by a line, as you see in the margin; then add the same together again, leaving out the said uppermost line, and the sum thereof I set under the first sum or true sum, which doth amount to *128l 16s. 1d. 0qrs.* then again I add $\begin{array}{r} 265\ 9\ 5\ 2 \\ \hline \end{array}$ this new sum to the uppermost line that was before separated from the rest, and the sum of those two is *265l 9s. 5d. 2qrs.* the same with the first sum; and therefore I conclude that the operation was rightly performed.

The main end of addition in questions resolvable thereby, is to know the sum of several debts, parcels, integers, &c. Some questions may be these that follow.

Quest. 1. There was an old man whose age was required. To which he replied, I have seven sons, each having two years between the birth of each other; and in the 44th year of my age my eldest son was born, which is now the age of my youngest. I demand, what was the old man's age?

Now, to resolve this question, first set down the father's age at the birth of the first child, which was 44; then the difference between the oldest and the youngest, which is 12 years; and then the age of the youngest, which is 44; and then add them all together; and their sum is 100, the complete age of the father.

Quest. 2. A man lent his friend at several times these several sums, viz. at one time 63/. at another time 50/. at another time 48/. and at another time 156/. Now I desire to know how much he lent in all?

Set the sums lent under one another as you see in the margin; and then add them together, and you will find the sum to amount to 317/ which is the total of all the several sums lent, and so much is due to the creditor.

317

Quest. 3. From London to Ware is 20 miles, thence to Huntington 29 miles, thence to Stamford 21 miles, thence to Tuxford 36 miles, thence to Wentbridge 25 miles, from thence to York 20 miles. Now I desire to know how many miles it is from London to York, according to this reckoning?

Now to answer this question, set down the several distances given, as you see in the margin; and add them together, and you will find their sum to amount to 151; which is the true distance in miles between London and York.

25
20

151

Quest. 4. There are two numbers, the least whereof

is 40, and the difference 14. I desire to know what is the greater number, and also what is the sum of both? First set down the least, viz. 40, and 14 the difference; and add them together, and the sum is 54 for the greater number. Then I set 40 (the least) under 54, (the greatest,) and add them together, and their sum is 94, equal to the greatest and least numbers.

	Greatest 54
	Least 40
	—
	14
	40
	—
	94

Of subtraction of whole numbers.

1. **S**ubtraction is the taking of a less number out of a greater of like kind, whereby to find out a 3^d number, being or declaring the inequality, excess or difference between the numbers given. Or, subtraction is that by which one number is taken out of another number given, to the end that the residue or remainder may be known; which remainder is also called the rest, remainder or difference of the numbers given.

2. The number out of which subtraction is to be made, must be greater, or at least equal with the other number given. The higher or superior number is called the major number; and the lower or inferior is called the minor number; and the operation of subtraction being finished, the rest or remainder is called the difference of the numbers given.

3. In subtraction, place the numbers given respectively the one under the other, in such sort as like degrees, places, or denominations may stand in the same series, viz. units under units, tens under tens, pounds under pounds, &c. set under feet, and parts under parts, &c. This being done, draw a line underneath, as in addition.

4. Having placed the numbers given as is before directed, and drawn a line under them, subtract the lower number (which in this case must always be less than the uppermost) out of the higher number, and subscribe the difference or remainder respectively below the line; and

when the work is finished, the number below the line will give you the remainder.

As for example: let 364521 be given to be subtracted from 795836 I set the lesser under the greater, as in the margin, and draw a line under them; then beginning at the right hand, I say, 1 out of 6 795836, and there remains 5, which I set in order under 364521 the line. Then I proceed to the next, saying, ——— 2 from 3 rests 1, which I note also under the 431315 line. And thus I go on till I have finished the work. And then I find the remainder or difference to be 431315.

5. But if it so happen, as commonly it doth, that the lowermost number or figure is greater than the uppermost; then, in this case, add 10 to the uppermost number, and subtract the said lowermost number from their sum, and the remainder place under the line; and when you go to the next figure below, pay an unit, by adding it thereto for the 10 you borrowed before, and subtract that from the higher number of figures. And thus go on till your subtraction be finished. As for example: let 437503 be given, from whence it is required to subtract 153827. I dispose of the numbers as is before directed, and as you see in the margin: then I begin, saying, 7 from 3 I cannot, but adding 10 thereto, I say, 7 from 13, and there remains 6; which I set 437503 under the line in order. Then I proceed to the 153827 next figure, saying, 1 that I borrowed and 2 is ——— 3 from 0 I cannot, but 3 from 10, and there remains 7; which I likewise set down as before. 283676

Then 1 that I borrowed and 8 is 9, from 5 I cannot, but 9 from 15, and there remains 6. Then 1 I borrowed and 3 is 4 from 7, and there remains 3. Then 5 from 3 I cannot, but 5 from 13, and there remains 8. Then 1 I borrowed and 1 are 2 from 4, and there rests 2. And thus the work is finished. And after these numbers are subtracted from one another, the inequality, remainder, excess, or difference, is found to be 283676. Ex-

amples for thy further experience may be these that follow.

From 3469916
Take 738642

From 361576
Take 5864

Refts 2731274

Refts 355712:

6. If the sum or number to be subtracted is of several denominations, place the lesser sum below the greater, and in the same rank and order as is shewed in addition of the same numbers. Then begin at the right hand; and take the lower number out of the uppermost, if it be lesser; but if it be bigger than the uppermost, then borrow an unit from the next greater denomination, and turn into the parts of the less denomination, and add those parts to the uppermost, noting the remainder below the line. Then proceed, and pay one to the next denomination for that which you borrowed before; and proceed in this order until the work be finished. An example of this rule may be this that followeth. Let 375*l.* 13*s* 7*d.* 1*qr.* be given, from whence let it be required to subtract 57*l.* 16*s.* 3*d.* 2*qrs.* In order whereunto I place the numbers as you see in the margin. And thus I begin at the least denomination, *l.* *s.* *d.* *qrs.* saying, 2 from 1 I cannot, therefore I 375 13 7 1 borrow 1 penny from the next denomination, 57 16 3 2 nation, and turn it into farthings, which is 4; and adding 4 to 1, which is 3, 7 17 3 3 which is 4; and adding 4 to 1, which is 3, 7 17 3 3 5. I say 2 from 5, and there remains 3; which I put under the line. Then going on, I say, 1 that I borrowed and 3 is 4 from 7, and there refts 3. Then going on, I say, 16 from 13, I cannot, but borrowing 1 pound, and turning it into 20 shillings, I add to it 13, and that is 33, wherefore I say, 16 from 33, and there remains 17, which I set under the line; and go on, saying, 1 that I borrowed and 8 is 8 from 5, I cannot, but 8 from 15, and there remains 7; the 1 that I borrowed and 5 is 6 from 7, there refts 1, and 0 from 3 refts 3. And 1 and the remainder or difference to be 317*l.* 17*s.* 3*d.* 3*qrs.*

An example of Troy weight may be this. I would sub-

tract 17 *lb.* 10 *oz.* 11 *pw.* 20 *gr.* from 24 *lb.* 5 *oz.* 0 *pw.* 8 *gr.* I place the numbers according

to the rule; and begin, saying, 20 *lb.* *oz.* *pw.* *gr.*

from 8 I cannot, but borrow 1 pen. 24 5 0 8
my weight, which is 24 grains, and 17 10 11 20
add them to 8, and then are 32, —————

wherefore I say, 20 from 32 refts 12. 6 6 8 12.

Then 1 that I borrowed and 11 are 12

from 0 I cannot, but 12 from 20, borrowing an ounce,
which is 20 penny weight, and there remains 8. Then

1 that I borrowed and 10 are 11 from 5 I cannot, but 11
from 17, and there refts 6. Then 1 that I borrowed and

7 are 8 from 4 I cannot, but 8 from 14, and there refts 6.

Then 1 that I borrowed and 1 is 2 from 2, and there refts
nothing. So that I find the remainder or difference to be
6 *lb.* 6 *oz.* 8 *pw.* 12 *gr.*

7. It many times happeneth, that you have many sums
or numbers to be subtracted from one number; as sup-
pose a man should lend his friend a certain sum of money,
and his friend hath paid him part of his debt at several
times. Then before you can conveniently know what is
still owing, you are to add the several numbers or sums
of payments together, and subtract their sum from the
whole debt, and the remainder is the sum due to the cre-
ditor. As suppose A lend-

eth to B 564/ 16s. 10d. and

B hath repaid him 79/ 16s. Lent 564 16 10

8d. at one time, and 163/ 18s.

11d. at another time, and

24/ 15s 8d. at another time;

and you would know how

the accompt standeth be-

tween them, or what more is

due to A: In order whereun-

to I first set down the sum Remains

which A lent, and draw a

line underneath it; then under that line I set the several

	<i>l.</i>	<i>s.</i>	<i>d.</i>
Lent	564	16	10
Paid at several	79	16	8
Payments	163	18	11
	241	15	8

	Paid in all
	485 11 3
	Remains
	79 5 7

sums of payment as you see in the margin : and having brought the several sums of payment into one total, I find their sum amounteth to 485*l.* 11*s.* 3*d.* which I subtract from the sum first lent by A, and I find the remainder to be 79*l.* 5*s.* 7*d.* and so much is still due to A.

When the learner hath good knowledge of what hath been already delivered, he will with ease understand the following examples.

Subtraction of money.

	<i>l.</i>	<i>s.</i>	<i>d.</i>	<i>l.</i>	<i>s.</i>	<i>d.</i>	<i>gr.</i>
Borrowed	374	10	3	700	10	11	1
Paid	97	15	11	9	3	11	2

Remains	276	14	4	691	6	11	3
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Borrowed	1000	0	0	711	3	0	0
Paid	29	6	3	11	13	0	1

Remains due	980	13	9	699	9	11	3
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Borrowed	—	—	—	3300	0	0	0
----------	---	---	---	------	---	---	---

Paid at several payments

	170	10	0	0
	360	13	10	1
	590	3	2	3
	74	4	11	3

Paid in all	—	—	—	1195	13	0	3
-------------	---	---	---	------	----	---	---

Remains due	—	—	—	2104	6	11	1
-------------	---	---	---	------	---	----	---

Subtraction of Troy weight.

	<i>lb.</i>	<i>oz.</i>	<i>dr.</i>	<i>gr.</i>
Bought	174	0	13	0
Sold	78	4	16	15

Remains	95	7	16	9
---------	----	---	----	---

Bought

<i>lb.</i>	<i>oz.</i>	<i>dr.</i>	<i>gr.</i>
470	10	1	0

Sold at several times

60	0	0	0
35	10	18	0
16	7	9	8
48	4	0	0
61	11	19	23
23	0	0	0

Sold in all

245	10	7	7
-----	----	---	---

Remains unfold

224	11	13	17
-----	----	----	----

Subtraction of apothecaries weight.

<i>lb. oz. dr. sc. gr.</i>	<i>lb. oz. dr. sc. gr.</i>
Bought 12 4 3 0 0	20 0 1 0 7
Sold 8 5 1 1 15	10 0 1 2 12
Remains 3 11 1 1 5	9 11 7 6 15

Subtraction of avoirdupois weight.

<i>C. qrs. lb.</i>	<i>T. C. qrs. lb. oz. dr.</i>
Bought 35 0 15	5 7 1 10 11 5
Sold 16 2 20	3 17 1 16 9 13
Remains 18 1 23	1 9 3 22 0 8

Subtraction of dry measure.

<i>Tuns. bdds. gall.</i>	<i>Tuns. bdds. gall. pints.</i>
Bought 40 1 30	60 3 42 4
Sold 16 1 40	15 0 46 6
Rem. 23 3 53	44 2 58 6

Subtraction of dry measure.

<i>Chal. qrs. bush. pec.</i>	<i>Chal. qrs. bush. pec.</i>
Bt. 100 0 0 0	73 2 3 2
Sl. 54 1 4 3	46 2 3 3
Rem. 45 2 3 1	26 6 7 3

K

Subtraction of long measure.

	<i>Yards.</i>	<i>qrs.</i>	<i>nails.</i>		<i>Yards.</i>	<i>qrs.</i>	<i>nails.</i>
Bc.	160	0	0		344	0	1
Sold	95	1	2		177	0	3
Rem.	64	2	2		166	3	2

Subtraction of land measure.

	<i>Acres.</i>	<i>roods.</i>	<i>perch.</i>		<i>Acres.</i>	<i>roods.</i>	<i>perch.</i>
Bc.	140	2	13		600	0	0
Sold	70	3	12		54	0	16
Remains	69	3	1		545	3	24

Proof of subtraction.

Sums in this rule are easily proved, by adding their remainders to their lesser numbers; which (if right) will make the greater.

MULTIPLICATION.

Multiplication may be accounted the most serviceable rule in arithmetic; it performeth the work of many additions in the most compendious manner, brings numbers of great denomination into small, as pounds unto shillings, pence, or farthings; tuns into hundreds, quarters, pounds, or ounces, &c. and by knowing the value of one thing, we find the value of many.

In multiplication observe these three terms, multiplicand, multiplier, product.

1. The multiplicand (generally the greater of the two numbers) is the number to be multiplied.

2. The multiplier (generally the lesser of the two numbers) is the number to multiply with.

3. The product is the result of the work, or the answer to the question. But before any thing can be done to the purpose, it is necessary to learn the following table perfectly by heart.

The Multiplication Table.

3 times	$\left\{ \begin{array}{l} 3 \\ 4 \\ 5 \\ 6 \end{array} \right.$	$\left\{ \begin{array}{l} 9 \\ 12 \\ 15 \\ 18 \end{array} \right.$
	$\left\{ \begin{array}{l} 7 \\ 8 \\ 9 \end{array} \right.$	$\left\{ \begin{array}{l} 21 \\ 24 \\ 27 \end{array} \right.$
4 times	$\left\{ \begin{array}{l} 4 \\ 5 \\ 6 \\ 7 \end{array} \right.$	$\left\{ \begin{array}{l} 16 \\ 20 \\ 24 \\ 28 \end{array} \right.$
	$\left\{ \begin{array}{l} 8 \\ 9 \end{array} \right.$	$\left\{ \begin{array}{l} 32 \\ 36 \end{array} \right.$
5 times	$\left\{ \begin{array}{l} 5 \\ 6 \\ 7 \\ 8 \end{array} \right.$	$\left\{ \begin{array}{l} 25 \\ 30 \\ 35 \\ 40 \end{array} \right.$
	$\left\{ \begin{array}{l} 9 \end{array} \right.$	$\left\{ \begin{array}{l} 45 \end{array} \right.$
6 times	$\left\{ \begin{array}{l} 6 \\ 7 \\ 8 \end{array} \right.$	$\left\{ \begin{array}{l} 36 \\ 42 \\ 48 \end{array} \right.$
	$\left\{ \begin{array}{l} 9 \end{array} \right.$	$\left\{ \begin{array}{l} 54 \end{array} \right.$
7 times	$\left\{ \begin{array}{l} 7 \\ 8 \\ 9 \end{array} \right.$	$\left\{ \begin{array}{l} 49 \\ 56 \\ 63 \end{array} \right.$
8 times	$\left\{ \begin{array}{l} 8 \\ 9 \end{array} \right.$	$\left\{ \begin{array}{l} 64 \\ 72 \end{array} \right.$
9 times	$\left\{ \begin{array}{l} 9 \end{array} \right.$	$\left\{ \begin{array}{l} 81 \end{array} \right.$
12 times	$\left\{ \begin{array}{l} 2 \\ 3 \\ 4 \\ 5 \\ 6 \\ 7 \\ 8 \\ 9 \\ 10 \\ 11 \\ 12 \end{array} \right.$	$\left\{ \begin{array}{l} 24 \\ 36 \\ 48 \\ 60 \\ 72 \\ 84 \\ 96 \\ 108 \\ 120 \\ 132 \\ 144 \end{array} \right.$

What is the amount of 3 times 654?

Answer, If you set the number 654, 3 times down on paper, one above another, the total will be 1962.

But such questions are done by this rule of multiplication much readier, for being set down thus :

654 Multiplier
3 Multiplier.

Now to know how much 3 times 664 is, begin thus, saying, 3 times 4 is 12, the figure 2 of 12, set below the line, and bear the 10 of the 12 in mind, as 1; next, 3 times 5 is 15, and the 1 bore in mind, makes 16, so 1 set 6 below

the line, and bear the ten in mind as one; next I say, 3 times 6 is 18, and 1 bore in mind makes 19, which I set down, and the work will stand as in the margin.

654
3

1962

How many is 3 times 472? Set the figures down as in the margin; then say 3 times 2 is 6, which place under the 2 in the multiplicand; then 3 times 7 is 21: set down 1 under 7, and carry 2, for 2 tens, as in addition of one denomination; then 3 times 4 is 12, and 2 is 14, which I set down, and the product is 1416, that is 3 times 472 makes so much; and may be proved by addition, by setting down 473 three times in additional order, and calling it up, which makes the assertion good in the second definition, that this rule compendiously performs the office of addition. Likewise the foregoing examples agree with the first definition; for as 3 times 472 makes 1416, so doth 472 times 3 make the same number.

Examples. Again, How many makes 742 multiplied by 4?

742 Multiplicand Here I say, 4 times 2 is 8, and 4
4 Multiplier times 4 is 16; 6 and carry 1; and
2968 Product 4 times 7 is 28, and 1 is 29, which
set down; so the whole product is
2968, as per example.

More examples of one figure in the multiplier, are these,
viz.

Multiplicand	7420	4444	7468	90704	56789
Multiplier	5	6	7	8	9
Product	<u>37100 26664 52276 725632 511101</u>				

In compound multiplication,

When the multiplier consists of more figures than one, you must begin with that figure which is in the place of

units of the multiplier, and go thro' the whole multiplicand, by multiplying each figure of it first by that said unit figure, and then by the next, to wit, by the figures in the place of tens in the multiplier, then with the third, &c. to the last; always remembering to place the first figure of every product or line (for you will ever have as many as you have significant figures in the multiplier) I say, remember to place the figure of every line exactly and perpendicularly under the figure you multiply by, and then add the several lines or products together, which so collected, gives the total product required, as in the examples following, viz.

Example.

How many is, or are, 23 times 7426 First, 7426
begin with the unit figure 3 in the multiplier, 23
saying, 3 times 6 is 18, 8 (which I set directly
under 3, by which I multiply) and carry 1, then 22278
3 times 2 is 6, and 1 is 7, then 3 times 4 is 12, 14852
2 and carry 1, then 3 times 7 is 21 and 1 is 22. —
And so I have done with the first figure of the 170798
multiplier, viz. 3. Then I go to the next, that
is 2, and say, twice 6 is 12, 2 and carry 1 (which 2 is placed in a direct line under 2 the multiplying figure) then twice 2 is 4 and 1 is 5, then twice 4 is 8, and lastly twice 7 is 14, which I set down, and I add the two products together, saying, 8 is 8, &c. &c. and the total is the right and proper product or result of the multiplication, viz.
170798.

527535
15728

275827
19725

4220280
1055070
3692745
2637675
527535

1379135
551654
1930789
2482443
275827

8297070480

5440687575

When cyphers are intermixt with figures in the multiplier, then multiply by the figures as above; and when you come to a cypher in the multiplier, then set down another cypher exactly and perpendicularly under it; then begin the multiplicand again with the next figure to the cypher in the multiplier, and go through it in the same line, placing the first figure of that product next to the cypher towards the left hand, but then heed must be taken, that the next figure or cypher of the next line must be set down one degree farther towards the left hand, and not immediately under the last figure set down next to the cypher: as in the following examples may be fully understood.

24593	7864371	327586
402	23604	6030
48786	31457484	9827580
975720	471862260	19655160
9805986	23593113	
	15728742	1975343580
	185630613084	

When you have a cypher or cyphers in the multiplier, at the beginning towards the right hand; then set it or them backwards from the place of units towards the right hand, when you have multiplied by the figure or figures annex the cypher or cyphers:

As in these examples:

4762	47962	4632
70	400	2600
333340	19184800	27792
		9264
		12043200

If you have cyphers in the units place, &c. both in the

multiplicand and multiplier, then neglect the cyphers in both, and multiply by the figures, and annex as many cyphers to the total product as is the sum of the cyphers, both in the multiplicand and multiplier.

As in these examples:

42600	42300	376400
220	12000	2400
852	846	15056
852	423	7528
9372000	507600000	903360000

When you are to multiply by 10, 100, 1000, or 10000, it is only adding or annexing so many cyphers to the multiplicand, as in the multiplier, that is, either 1, 2, 3, or 4 cyphers, and the work is done. Example, Suppose I am to multiply 375 by the numbers above, if I multiply it by 10, then I join 0 to 375, and then it makes, or the product is, 3750: if by 100, then I annex 00, and it makes 37500: if by 1000, I put to it 000, and then it produces 375000: and lastly, if by 10000, I then add 0000, and then it makes 3750000, &c. and thus may any number be multiplied, when the multiplier consists of an unit with any number of cyphers.

Suppose you want to know how many half-crowns there are in 24*6d.* you know that 8 half-crowns make a pound, wherefore set them down thus:

24*6d.*

Multipled by 8 the half-crowns in a pound.

Answer 1968 half-crowns in all.

Again, In 1968 half-crowns how many pence?
Multiply by 30 the pence in half-a-crown.

Answer 59040 pence in 1968 half-crowns.
And this serves to make out, that great denominations are brought into smaller by this rule.

Admit you wanted to know the contents of a large table 34 feet long, and 4 feet wide.

Multiply 34 the length

By 4 the breadth, and the

Answer will be 136 square feet for the true contents of such a table.

Multiplication of money.

Multiplication of money (what most would learn above every thing) hath a great affinity with addition of money, the same method being taken in carrying one denomination to the next, viz. from farthings to pence, from pence to shillings, and from shillings to pounds. And as in addition (and other multiplications) you begin at the right hand, and proceed towards the left; so here you begin at the least denomination, which is also the right hand.

This method of accomplishing is the most apt and expeditious of all others, for smaller quantities; and therefore extremely necessary in making bills of parcels, &c. And is beyond all contradiction, as sure and certain as any way whatsoever.

The general rule,

Is always to multiply the price by the quantity.

The first step is, for quantities from 2 to 12, and this is done by one multiplier, as in the following example:

Example 1. What must I give for 6 pieces of cloth, if one cost 7*l.* 12*s.* 6*d.*?

<i>l.</i>	<i>s.</i>	<i>d.</i>
7	12	6
42	0	0

And the product is the answer, viz. 42*l.* 0*s.* 0*d.*

Here I say 6 times 6 is 36 pence, which is just 3*s.* I set down 0 in the place of pence, and carry 3*s.* to the place of shillings, exactly the same as in addition of money; then

6 times 12 is 72, and 3 is 75*s*. or 3*l*. 15*s*. wherefore I set down fifteen in the place of shillings, and carry 3 to the pounds; then 6 times 7 is 42 and 3 is 45*l*. So the whole amount of the cloths, at 7*l*. 12*s*. 6*d*. *per* piece, is 45*l*. 15*s*. as in the work, and very concise.

Questions proper for this Rule.

Question 1. What is the contents of a square piece of ground, whose length is 28 perches, and breadth 13 perches?

Answer, 364 square perches: for multiplying 28 the length by 13 the breadth, the product is so much.

Question 2. There is a square battle, whose flank is 47 men, and the files 19 deep; what number of men doth that battle contain? *Facit*, 893: for multiplying 47 by 19, the product is 893.

Question 3. If any one thing cost 4 shillings, what shall 9 things cost? Answer, 36 shillings: for multiplying 4 by 9, the product is 36.

Question 4. If a piece of money or merchandize be worth or cost 17 shillings, what shall 19 such pieces of money or merchandize cost? *Facit* 323 shillings, which is equal to 16*l*. 3*s*.

Question 5. If a soldier or servant get or spend 14*s*. *per* month, what is the wages or charges of 49 soldiers or servants for the same time? Multiply 49 by 14, the product is 686*s*. or 34*l*. 6*s*. for answer.

Question 6. If in a day there are 24 hours, how many hours are there in a year, accounting 365 days to constitute the year? *Facit* 8760 hours: to which if you add the 6 hours over and above 365 days, as there is in a year, then it will be 8766 hours. Now, if you multiply this 8766 by 60 you have the number of minutes in a year.

Division of whole numbers.

1. Division is the separating or parting of any number or quantity given, into any parts assigned; or to find how often one number is contained in another; or

from any two numbers given to find a third, that shall consist of so many units, as the one of those two given numbers is comprehended or contained in the other.

2. Division hath three parts or numbers remarkable, viz. first, the dividend; secondly, the divisor; thirdly, the quotient. The dividend is the number given to be parted or divided. The divisor is the number given by which the dividend is divided; or it is the number which sheweth how many parts the dividend is to be divided into. And the quotient is the number produced by the division of the two given numbers, the one by the other.

So 12 being given to be divided by 3, or into three equal parts, the quotient will be 4, for three is contained in 12 four times; where 12 is the dividend, and 3 is the divisor, and 4 is the quotient.

3. In division set down your dividend, and draw a crooked line at each end of it; and before the line at the left-hand place the divisor, and behind that on the right hand place the figures of the quotient, as in the margin; where it is required to divide 12 by 3. $3 \overline{) 12} 4$

First, I set down 12 the dividend, and on each side of it I draw a crooked line, and before that on the left hand do I place 3, the divisor. Then do I see how often 3 is contained in 12; and because I find it 4 times, I put 4 behind the crooked line on the right hand of the dividend, denoting the quotient.

4. But if, when the divisor is a single figure, the dividend consisteth of two or more places; then, having placed them for the work, as is before directed, put a point under the first figure on the left hand of the dividend, provided it be bigger than, or equal to the divisor; but if it be less than the divisor, then put a point under the second figure from the left hand of the dividend: which figures, as far as the point goeth from the left hand, are to be reckoned by themselves, as if they had no dependence upon the other part of the dividend, and, for distinction's sake, may be called the dividual. Then ask how often the divisor is contained in the dividual, placing the answer in

the quotient. Then multiply the divisor by the figure that you placed in the quotient, and set the product thereof under your dividend. Then draw a line under the product, and subtract the said product from the dividend, placing the remainder under the said line. Then put a point under the next figure in the dividend on the right hand of that to which you put the point before, and draw it down, placing it on the right hand of the remainder which you found by subtraction, which remainder, with the said figure annexed to it, shall be a new dividend. Then seek again how often the divisor is contained in this new dividend, and put the answer in the quotient on the right hand of the figure which you put there before. Then multiply the divisor by the last figure that you put in the quotient, and subscribe the product under the dividend, and make subtraction, and so the remainder draw down the next figure from the grand dividend, having first put a point under it,) and put it on the right hand of the remainder for a new dividend, as before, &c, and proceed thus till the work is finished.

Observe this general rule in all kind of division.

First, to seek how often the divisor is contained in the dividend. Then having put the answer in the quotient, multiply the divisor thereby, and subtract the product from the dividend. An example or two will make the rule plain. Let it be required to divide 2184 by 6. I dispose the numbers given as is before directed, and as you see in the margin, in order to the work. Then because 6 the divisor is more then 2 the first figure of 6)2184(3 the dividend, I put a point under 1 the second figure, which makes 21 for the dividend. Then do I ask how often 6 the divisor is contained in 21, and because I cannot have it more than 3 times I put 3 in the quotient, and thereby do I multiply 6)2184(3 multiply the divisor (6) and the product is 18, which I set in order under the dividend, and subtract it therefrom, and the remainder (3) I place in order under the line, as you see in the margin.

Then do I make a point under the next figure of the dividend, being 8, and draw 6) 2184 (36 it down, annexing it to the remainder 3; so I have 38 for a new dividual. Then do I seek how often 6 is contained in 38; and because I cannot have it more than 6 times, I put 6 in the quotient; and thereby do I multiply the divisor (6) and the product (36), I put under the dividual (38), and subtract it therefrom, and the remainder (2) I put under the line, as you see in the margin.

Then do I put a point under the next (and last) figure of the dividend, (being 4), and draw it down to the remainder (2); and putting it on the right hand thereof, it maketh 24 for a new dividual, Then I seek how often 6 is contained in 24; and the answer is 4, which I put in the quotient, and multiply the divisor (6) thereby, and the product (24) I put under the dividual (24), and subtract it therefrom, and the remainder is 0. And thus the work is finished; and I find the quotient to be 364; that is, 6 is contained in 2184 just 364 times, or 2184 being divided into 6 equal parts, 364 is one of those parts.

Again, if it were required to divide 2646 by 7, or into 7 equal parts, the quotient will be found to be 378; as appeareth by the operation on the margin.

$$\begin{array}{r}
 21 \\
 \hline
 54 \\
 49 \\
 \hline
 56 \\
 56 \\
 \hline
 (0)
 \end{array}$$

So if it were required to divide 946 by 8, the quotient will be found to be 118, and 2 remaining after division is ended. The work appeareth on the margin.

$$\begin{array}{r} 8 \overline{) 946} \quad (118 \\ \dots \end{array}$$

$$\begin{array}{r} 8 \overline{) 946} \\ \underline{14} \\ 8 \\ \underline{66} \\ 64 \\ \underline{} \\ (2) \end{array}$$

Many times the dividend cannot be exactly divided by the divisor, but something will remain; as in the last example, where 946 was given to be divided by 8, the quotient was 118, and there remaineth 2 after the division is ended. Now what is to be done in this case with the remainder, the learner shall be taught when we come to treat of the reducing (or reduction) of fractions.

And here note, that if, after your division is ended, any thing do remain, it must be less than your divisor, otherwise your work is not rightly performed.

Other examples are as follow.

$$8)73464(9183$$

$$9)13758(1528$$

$$\begin{array}{r} 72 \overline{) 73464} \\ \underline{14} \\ 8 \\ \underline{66} \\ 64 \\ \underline{24} \\ 24 \\ \underline{} \\ (0) \end{array}$$

$$\begin{array}{r} 9 \overline{) 13758} \\ \underline{47} \\ 45 \\ \underline{25} \\ 18 \\ \underline{78} \\ 72 \\ \underline{} \\ (6) \end{array}$$

But if the divisor consisteth of more places than one, then choose so many figures from the left side of the dividend for a dividual, as there are figures in the divisor, and put a point under the farthest figure of that dividual to the right hand, and seek how often the first figure on the left side of the divisor is contained in the first figure on the left side of the dividual, and place the answer in the quotient, and thereby multiply your divisor, placing your product under your dividual, and subtract it therefrom, placing the remainder below the line. Then put a point under the next figure in the dividend, and draw it down to the said remainder and annex it on the right side thereof, which makes a new dividual; and proceed as before, till the work is finished.

And if it so happen, that, after you have chosen your first dividual as is before directed, you find it to be less than the divisor; then put a point under the figure more near to the right hand, and seek how often the first figure on the left side of the divisor is contained in the two first figures on the left side of the dividual, and place the answer in the quotient, by which multiply the divisor, and place the product thereof in order under the dividual, and subtract it therefrom, and then proceed as before.

Always remembering, that in all cases of division, if, after you have multiplied your divisor by the figure first placed in the quotient, the product be greater than the dividual, then you must cancel that figure in the quotient, and instead thereof, put a figure less by an unit, (or one) and multiply the divisor thereby: and if still the product be greater than the dividual, make the figure in the quotient less by an unit. And thus do, until your product be less than the dividual, or at the most equal thereto, and then make subtraction, &c.

So, if you would divide 9464 by 24, the quotient will

be found to be 394. I first put down the given number, as is before directed in the third rule. Now, because my divisor consisteth of two figures, I therefore put a point under my second figure from the left hand of my dividend, which is 4; wherefore I seek how often 2, the first figure on the left side of the divisor, is contained in 4 (the like first in the dividend)

$$\begin{array}{r} 72 \quad 4 \\ \hline 22 \end{array}$$

the answer is 4; which I put in the quotient, and thereby multiply all the divisor, and find the product to be 96, which is greater than the dividend; wherefore I cancel the 4 in the quotient, and, instead thereof, I put 3 (an unit less) and by it multiply the divisor 24, and the product is 72: which I subtract from 94 the dividend, and the remainder is 22. Then do I make a point under the next figure 6 in the dividend, and draw it down, and place it on the right side of the remainder 22, and it makes 226 for a new dividend. Now, because the dividend 226 consisteth of a figure more than the divisor, therefore I seek how often 2 (the first figure 24) 9464 (39 of the divisor) is contained in 22, the two first of the dividend: I say 9 times: wherefore I put 9 in the quotient, and thereby multiply the divisor 24; the product (216) I place under the dividend 226, and subtract from it, and there remaineth 10.

$$\begin{array}{r} 72 \\ \hline 226 \\ 216 \\ \hline 10 \end{array}$$

Then I go on, and make a point under the next and last figure (4) in the dividend, and draw it down to the remainder 10, and it makes 104 for a new dividend; which is also a figure more than the divisor: and therefore I seek how often 2 is con-

tained in 10: I answer 5 times. But multiplying my divisor by 5, the product is 120: which is greater than the dividend: and therefore I make it but 4: and multiply it by the divisor, and the product is 96, which being placed under, and subtracted from the dividend, there remaineth 8. And thus the whole work of division is finished; and I find, that 9464 being divided by 24. or into 24 equal parts, is found to be 394, as was said before, and the remainder is 8; as you see the work in the margin.

$$\begin{array}{r}
 72 \text{ } 24) 9464(394 \\
 \underline{} \\
 226 \\
 \underline{} \\
 216 \\
 \underline{} \\
 104 \\
 \underline{} \\
 96 \\
 \underline{} \\
 (8)
 \end{array}$$

Another example may be this. Let there be required the quotient of 1183653 divided by 385. First I dispose of the numbers in order to their dividing; and because 118, the three first figures of the dividend, is less than the divisor 385, I therefore make a point under the fourth figure, which is 3, and see how often 3 (the first figure of the divisor) is contained in 11: the

$$\begin{array}{r}
 1155 \\
 \underline{} \\
 28
 \end{array}$$

answer is 3, which I put in the quotient, and thereby multiply the divisor 385, and the product is 1155, which I subtract from the dividend 1183, and there remains 28. Then, as before, draw down the next figure, which is 6, and place it before the remainder 28: so have I 286 for a new dividend; and because it hath no more figures than the divisor, I 385) 1183653 (30 seek how often 3 (the first figure in the divisor) is contained in 2 (the first figure of the dividend) and the answer is 0; for a greater number cannot be contained in a lesser; wherefore I put 0 in the quotient: and thereby (according to the 5th rule) I should multiply the divisor; but if I do, the product will be 0: and 0 subtracted from the dividend 286, the remainder is the same. Wherefore I draw down

$$\begin{array}{r}
 1155 \\
 \underline{} \\
 286
 \end{array}$$

the next figure (5) from the dividend, and put it before the said remainder 286: so have I 2865 for a new dividend; and because it con-

1155

2865

2695

sisteth of four places, viz, a place more than the divisor, I seek how often 3 (the first figure of the divisor) is contained in 28 (the two first of the dividend) and I say there is

170

9 times three in 28; but multiply-

ing the whole divisor (385) thereby, I find the product to be 3465, which is greater than the dividend 2865; wherefore I chuse 8, which is less by an unit than 9; and thereby I multiply the divisor 285, and the product is 3080, which is still greater than the said dividend: wherefore I chuse another number yet an unit less, viz. 7. and having multiplied my divisor thereby, the product is 2695: which is less than the dividend 2865, wherefore I put 7 in the quotient, and subtract 2695 from the dividend 2865, and there-

385) 1183653 (3074

....

1155

2865

2695

1703

1540

(163)

by, the product is 1925 greater than the dividend, wherefore I say it will bear 4, an unit less, and by it I multiply the divisor 385, and the product is 1540, which is less than the dividend, and therefore I put 4 in the quotient, and subtract the said product from the dividend, and there remaineth 163. And thus the work is finished: and I find that 1183653, being divided by 385, or into 385 equal shares or parts, the quotient or one of those parts, is 3074, and besides there is 163 remaining.

And thus the learner being well versed in the method of the foregoing examples, may be sufficiently qualified for the division of any greater sum or number, into as many parts as he pleaseth, that is, he may understand the method of dividing by a divisor that consisteth of 4, 5, or 6, or any greater number of places, the method being the same with the foregoing examples in every respect.

Other examples in division.

$$\begin{array}{r} 27986 \overline{) 835684790} \quad (29860 \quad 196374) \quad 473986018 \quad (2413 \\ 55972 \dots \dots \quad 392748 \dots \end{array}$$

$$\begin{array}{r} 275964 \\ 251874 \end{array}$$

$$\begin{array}{r} 812380 \\ 785496 \end{array}$$

$$\begin{array}{r} 240907 \\ 223888 \end{array}$$

$$\begin{array}{r} 268841 \\ 196374 \end{array}$$

$$\begin{array}{r} 170199 \\ 167916 \end{array}$$

$$\begin{array}{r} 724678 \\ 589122 \end{array}$$

$$\text{Remains } 22830$$

$$\text{Remains } 135556$$

So if you divide 47386473 by 58736, you will find the quotient to be 806, and 45237 will remain after the work is ended.

In like manner, if you would divide 3846739204 by 483064, the quotient will be 7963, and the remainder after division will be 100572.

When the divisor is 3, 4, 5, 6, or more figures, there is a sure and easy way of performing the work truly, by making a table of the divisor, which may be done by addition, or multiplying the divisor by 2, 3, 4, &c.

Admit you are to divide 987654321 by 123456.

$$\begin{array}{r} 123456 \overline{) 987654321} \quad (8000 \\ 987648 \dots \end{array}$$

$$\text{6321}$$

Here having noted the number of figures in the divisor, which here is fix, I make a point under the seventh figure, or place of the dividend, &c.

1 123456

- 2 246912 This table is made by doubling the first line, which is 246912, which added to the
- 3 370368 first or uppermost line, gives the third line, 370368, which also added to the said first line
- 4 493824 makes 493824 for the fourth line or product, and so of the rest, still remembering to add
- 5 617280 the subsequent line or product to the first or uppermost line, till you come to the last
- 6 740736 line of 9 times, which is 111104. The truth of which may be proved by multiplying the
- 7 864192 first or upper line by 2, 3, 4, 5, &c. and if
- 8 987648 found out, or corrected by multiplication.

9 111104

The use of the said table.

When you have pointed out your number of places in the dividend, cast your eye on the table, and at the first view you may know how many times you can take, as in this example, 7 times is too little, and 9 times too much, wherefore I set down 8 in the quotient, and then multiply and subtract, and the remainder is 6, to which I bring down 3, and put 0 in the quotient, then to the 63 I bring-down 2, and place another 0 in the quotient, then to 632 I bring-down 1, the last figure in the dividend, but still it will not bear any time or times, wherefore I put another 0 in the quotient, and so the work is done, and the quotient is 8000, and the remainder 6321, as in the work.

Abbreviations.

(1st.) If there are any cyphers on the right hand of your divisor, you may cut off so many cyphers, or figures,

over the right hand of your dividend, but remember to bring them down (if figures) to the remainder.

Example.

$$\begin{array}{r} 21100)8645129(412 \\ 84 \end{array}$$

24
21

35
21

1429

(2dly.) By the foregoing rule you may observe, that to divide by 10, 100, 1000, &c. is only to cut so many figures from the right hand of the dividend, as there are cyphers in the divisor.

Example.

$$11000)436821735($$

So the quotient is 43682, the remainder 735.

(3dly.) When your divisor is 12, or consists only of one single figure, or can be reduced to one by cutting off cyphers from its right hand, the work may be easily performed in one line, thus:

Rule.

Drawing a line under the dividend, set down under its first figure, how often the divisor is contained in it: what remains imagine placed before the next figure, and considering how often your divisor is contained in the sum it makes, set down the number underneath, as before, and so proceed through all the figures, setting down what remains at last in the place where your quotient used to stand.

Examples.

$$\begin{array}{r} 4)93645(1 \\ 12)83673(12 \\ 7100)5631514 \end{array}$$

23411

6972

805

If you are to divide several numbers by one common

divisor (as in the calculating of tables, &c.) that you may know exactly at once how often your divisor will go, in some convenient corner make a table of your divisor, by multiplying it severally by all the nine digits, thus, suppose 562 your divisor :

562	1
1124	2
1686	3
2248	4
2810	5
3372	6
3934	7
4496	8
5058	9

Proofs of division.

(1st.) Multiplication and division mutually prove each other : for as if you divide the product of a multiplication by the multiplier, the quotient will be the multiplicand : so if you multiply the quotient of a division by the divisor (taking in the remainder) the product will be the dividend.

(2dly.) Another proof of division is, by adding together those lines in the following example, marked with asterisks (being the particular products of the divisor, multiplied severally by each figure in the quotient, together with the remainder of the division) the total of which, if right, will be the dividend.

(3dly.) Division may also be proved as multiplication, by a cross, thus; casting out the nines from the divisor, and quotient, place the remainders on its right and left sides, then multiplying the two figures so placed together, and casting the nines from the product, and what's left to the remainder of the division, and still casting out the nines, let the overplus be placed at the top ; then also casting the nines from the dividend, set down the figure remaining at the bottom, which if it agrees with that at the top, the work may be supposed right. See each proof in the following.

Example.

736,863256	1172	
736*	736	
1272	7032	
736*	3516	
	8204	
5365	862592	
5152*	604	Remainder
2136		
1472*	863256	1st Proof
	664*	
3d Proof		

863256 2d Proof

REDUCTIO.

2. **R**eduction is that which brings together two or more numbers of different denominations into one denomination; or it serveth to change or alter numbers, money, weight, measure or time, from one denomination to another; and likewise to abridge fractions to the lowest terms; all which it doth so precisely, that the first proportion remaineth without the least jot of error or wrong committed: so that it belongeth as well to fractions as integers; of which in its proper place. Reduction is generally performed either by multiplication or division. From whence we may gather, that,

2. Reduction is either descending or ascending.

3. Reduction descending is, when it is required to reduce a sum or number, of a greater denomination into a lesser, which number, when it is so reduced, shall be equal in value to the number first given in the great denomination: as if it were required to know how many shillings, pence, or farthings, are equal in value to an hundred pounds? or, how many ounces are contained in 45 hundred weight? or, how many days, hours, or minutes,

there are in 240 years? &c. And this kind of reduction is generally performed by multiplication.

4. Reduction ascending is, when it is required to reduce or bring a sum or number of a smaller denomination into a greater, which shall be equivalent to the given number; as suppose it were required to find how many pence, shillings or pounds, are equal in value to 43785 farthings? or how many hundreds are equal to, or in, 3758 pounds, &c. As this kind of reduction is always performed by division.

5. When any sum or number is given to be reduced into another denomination, you are to consider whether it ought to be resolved by the rule descending or ascending, viz. by multiplying, or division. If it be to be performed by multiplication, consider how many parts of the denomination into which you would reduce it, are contained in an unit or integer of the number given, and multiply the said given number thereby, and the product thereof will be the answer to the question. As if the question were, In 38 pounds how many shillings? Here I consider, that in one pound are 20 shillings, 40 and that the number of shillings in 38 pounds, will 38 be 20 times 38; wherefore I multiply 38/. by 20, 760 and the product is 760, and so many shillings are contained in 38/. as in the margin.

But when there is a denomination or denominations between the number given and the number required, you may, if you please, reduce it into the next inferior denomi-

nation, and then into the next lower than that, &c. until you have brought it into the denomination required. As for example; let it be demanded, In 132 pounds how many farthings? First, I multiply 123 (the number of pounds given) by 20 to bring it into shillings, and it makes 2640 shillings. Then do I multiply the shillings 2640 by 12 to bring them into pence, and it produceth 31680, and so many in pence are contained in 2640 shillings, or 132 pounds. Then do I multiply the pence, viz. 31680, by 4, to bring them into farthings, (because 4 farthings is a penny) and I find the product thereof to be 126720, and so many farthings are equal in value to 132 pounds. The work is manifest in the margin.

6 And if the number propounded to be reduced is to be divided, or wrought by the rule ascending, consider how many of the given numbers are equal to an unit or integer in that denomination to which you would reduce your given number, and make that your divisor, and the given number your dividend; and the quotient thence arising will be the number sought or required. As for example: 210)264,0(132

2..

—

6

6

—

4

4

—

(0)

the learner is advised to take particular notice of the tables delivered in the former part of this book, where he may be informed what multipliers or divisors to make use of in the reducing of any number to any other denomination

whatsoever, especially English monies, weights, measures, time and motion. But in this place it is not convenient to meddle with foreign coins, weights, or measures.

But if in reduction ascending it happen that there is a denomination, or denominations between the number given and the number required, then you may reduce your number given into the next superior denomination, and when it is so reduced, bring it into the next above that, and so on, until you have brought it into the denomination required. As for example :

Let it be demanded, In 126720 farthings how many pounds? First I divide my given number, being farthings, by 4, to bring them into pence, because 4 farthings make one penny; and there are 31680 pence. Then I divide 31680 pence by 12, and the quotient giveth 2640 shillings. And then I divide 2640 shillings by 20, and the quotient giveth 132l. which are equal in value to 126720 farthings. See the work.

$$\begin{array}{r}
 12 \overline{) 4126720} \qquad (31680 \qquad 210 \qquad 1. \\
 12 \dots\dots \qquad 24 \dots \qquad 20 \dots \qquad 132 \dots \\
 \hline
 6 \qquad \qquad 76 \qquad \qquad 6 \qquad \qquad 6 \\
 4 \qquad \qquad 72 \qquad \qquad 6 \qquad \qquad \hline
 \hline
 27 \qquad \qquad 48 \qquad \qquad 4 \qquad \qquad 4 \\
 24 \qquad \qquad 48 \qquad \qquad 4 \qquad \qquad \hline
 \hline
 32 \qquad \qquad (0) \qquad \qquad (0) \qquad \qquad (0) \\
 32 \qquad \qquad \hline
 \hline
 (0)
 \end{array}$$

7. When the number given to be reduced consisteth of divers denominations, as pounds, shillings, pence and farthings, or of hundreds, quarters, pounds and ounces, &c. then you are to reduce the highest, or greatest denomination into the next inferior, and add therunto the number standing in that denomination, which your greatest or highest number is reduced to. Then reduce that sum into the next inferior denomination, adding thereto the

number standing in that denomination. Do so until you have brought the number given in- to the denomination proposed. As if it were required to reduce 48*l.* 13*s.* 10*d.* into pence: first I bring 48*l.* into shillings, by multiplying it by 20, and the product is 960 shillings; to which I add the 13 shillings, and they make 973. Then I multiply 973 by 12, to bring the shillings into pence, and they make 11676; to which I add the 10 pence, and they make 11676 pence for the answer. See the work done.

960 shillings	
Add 13	
973	
Sum 973 shillings	
12	
1946	
973	
11676 pence	
Add 10	

Sum 11686 pence
If in reduction ascending, after division is ended, any thing remain, such remainder is of the same denomination with the dividend.

Example. In 4783 farthings, I demand how many pounds? View the following operation.

Given number of farthings, viz. 4783,	12)	110)	
4)4783	(1196	(919	(4 pounds
by 4, to bring them into pence, and the quotient is 1195	4 . . .	107 .	8
pence, and there remaineth 3 after the work of division is ended, which is 3 farthings.	—	—	—
	7	115	19 shillings
	4	108	
	—	—	
	38 Rem.	7 pence	
	36		
	—		

Again, I divide 1195 pence, the said quotient, by 12, to reduce them into	23	Facit 4 19 7 3
	20	
	—	
	3 farthings remains.	

shillings, and the quotient is 99 shillings, and there is a remainder of 7, which is 7 pence.

And then divide 99 shillings (the last quotient) by 20, or bring it into pounds; and the quotient is 4*l*. and there remaineth 19 shillings; so that I conclude that in 4783 (the proposed number of farthings) there is 4*l*. 19*s*. 7*d*. 3*qrs*.

More examples in the reduction of coin.

Quest. In 438*l*. how many shillings? Facit 8760 shillings; for

multiplying 438 by 20, the product amounteth to so much. See the work.

$$\begin{array}{r} \text{Facit 8760 shillings} \\ \hline \hline \hline \end{array}$$

Quest. In 467*l*. how many pence? First multiply the given number of pounds (467) by 20 to bring it into shillings; and it makes 9340 shillings, then multiply the shillings by 12, and it produceth 112080 pence, thus;

$$\begin{array}{r} 467 \text{ pounds} \\ 20 \quad \text{---} \\ \hline 9340 \text{ shillings} \\ 12 \quad \text{---} \\ \hline 112080 \\ 934 \quad \text{---} \\ \hline \end{array}$$

Facit 112080 pence

$$\begin{array}{r} \hline \hline \hline \end{array}$$

Or it may be resolved thus, viz. multiply the given number of pounds (476) by (240) the number of pence in a pound, and the product is the same, viz. 112080 pence, as by the operation appeareth.

Facit 112080

Quest. In $\$672l.$ how many farthings? First multiply the given number by 20, to bring it into shillings, and it produceth 113460 shillings, then multiply that product by 12, to bring it into pence, and it produceth 1361520 pence, then, lastly, multiply the pence by 4, and it produceth $\$446080$ farthings. See the operation.

	$\$673$ pounds
20	
	113460 shillings
12	
	22692
	11336
	1361520
4	

Facit $\$446080$ far.
Or the question might have been thus resolved, viz. Multiply $\$673$ (the given number of pounds) by 960 (the number of farthings in a pound) and it produceth the same effect; as you see by the work.

$\$673$ pounds	20 shillings
960	
	12
	240 pence
	4

Facit $\$446080$ farthings
Otherwise thus: First bring the given number $\$673l.$ into shillings, and multiply the shillings by 48, the number of farthings in a shilling, and the same effect is thereby likewise produced, viz.

$\$673$ pounds	12 pence
20	
	4
	48 farthings
	48
	90768
	45384

Facit $\$446080$ farthings

These various ways of operation are expressed to inform the judgment of the learner with the reason of the rule.

More ways may be shewn, but these are sufficient even for the meanest capacities.

Quest. In 458l 16s. 7d. 3grs. how many farthings? To resolve this question, consider the

l. s. d. grs.
458 16 7 3
20

sevent rule and work as you are there directed, and you will find the for-said given numbers

9160

Add 16 shillings

to amount to 440479 farthings, Sum 1796 shillings viz.

12

18352
9176

110112

Add 7 pence

Sum 110119 pence

4

440479

Add 3 farthings

Sum 440479 farthings

This last question, or any other

l. s. d. grs.
458 16 7 3

20

9176 shillings

12

18359

9176

110119 pence

4

because the first figure in the multiplier is 0, I say, 0 times 6 is nothing, but 6 is 6, which I put down Facit 440479 farthings

for the first figure in the product. Then because the multiplier is 0, I go no farther with it, for if I should, the whole product would be 0; but proceed. And when I come to multiply by the second figure in the multiplier, to the product of it I add the figure standing in the place of tens in the denomination of shillings, which is 1; saying 2 times 8 is 16, and (the said figure) 17. Then I set down 7, and carry the unit to the product of the next figure, as has been directed before. So that now you may have the whole product and sum of shillings at one operation, which is the same as before. And when you multiply the shillings by 12, to bring them into pence, after the same manner, add to the product the number standing in the denomination of pence; and so when you multiply the pence by 4, to bring them into farthings, add to the product the number standing under the denomination of farthings. See the last question thus wrought on the margin of the preceding page.

Reduction of Troy weight.

We come now to give the learner some examples in Troy weight, wherein we shall be brief, having given so large a state of reduction in the former examples of coin. And now the learner must be mindful of the table of Troy weight delivered in addition.

Quest. In 48*lb*. 7*oz*. 13*pw*. 21*gr* how many grains?

Multiply by 12, by 20, and by 24, taking in the figures standing in the several denominations, according to the directions given formerly, and you will find the product to be 2780013 grains, which is the number required, or answer to the question following. See the work as followeth.

lb. oz. pw. gr.
 482 7 13 21
 12

971
 482

5791 ounces

20

115833 penny weight
 24

463333
 231668

Facit 2780013 grains.

Quest. In 2780013 grains, I demand how many *lb. oz. pw. gr.*

This is but the foregoing question inverted, and is resolved by dividing by 24, by 20, and by 12, and the answer is 482*lb.* 7*oz.* 13*pw.* 21*gr.*

24)2780013 (210) (1158313 (12) (5391 (482
 24... 10... 48..

38 15 99
 24 14 96

140 18 31
 120 18 24

200 3 Remains 7 ounces
 192 2

81 Remains 13 penny weight
 72

93 *lb. oz. pw. oz.*
 72 Facit 482 7 13 21

Remains 21 grains

Reduction of avoirdupois weight.

In reducing of avoirdupois weight, the learner must have recourse to the table of avoirdupois weight delivered before.

Quest. In 47*C.* 1*qr.* 20*lb.* how many ounces? Multiply by 4, by 28, and by 16, and the last product will be the answer, viz. 84992 ounces.

C. <i>qrs.</i> <i>lb.</i>	
47	1
4	20
189	
28	
1512	
380	
5312	
16	
32872	
5312	

Facit 84992 ounces

Quest. In 84992 ounces, I demand how many *C.* *qrs.* *lb.* and *oz.*?

This is the foregoing question inverted, and will be resolved if you divide by 16, by 28, and by 4, and the answer is 47 *C.* 1 *qr.* 20 *lb.* equal to the given number in the foregoing question.

28)	4)	C. <i>qrs.</i> <i>lb.</i> <i>oz.</i>
(5312	(189	(47
28..	16	1
251	29	
48	39	
19	1	
16	qr.	
272		
252		
32		
32		20 pounds
(0)		

Reduction of liquid measure.

Quest. In 45 tuns of wine, how many gallons? Multiply by 4 and 63, the product is 11340 gallons for the answer.

$$\begin{array}{r} 45 \\ 4 \\ \hline 180 \\ 63 \\ \hline \end{array}$$

$$\begin{array}{r} 54 \\ 108 \\ \hline \end{array}$$

Facit 11340.

Quest. In 34 rundlets of wine, each containing 18 gallons, I demand how many hogheads?

First, find how many gallons are in the 34 rundlets, which you may do if you multiply 34 by 18, the contents of a rundlet, and the product is 612 gallons, which you may reduce into hogheads, if you divide them by 63, and the quote will be 9 hogheads, and 45 gallons. See the work.

$$\begin{array}{r} 34 \\ 18 \\ \hline \end{array}$$

$$272$$

$$34$$

$$\begin{array}{r} 65)612(9 \text{ hogheads} \\ 567 \\ \hline \end{array}$$

Remains 45 gallons

Facit 9 hogheads 45 gallons

Quest. In 12 tuns, how many rundlets of 14 gallons per rundlet?

Reduce your tuns into gallons, and divide them by 14, the gallons in a rundlet, and the quotient, 216, is your answer. See the work.

$$\begin{array}{r}
 12 \\
 4 \\
 \hline
 48 \\
 63 \\
 \hline
 144 \\
 288 \\
 \hline
 14) 3024 \text{ (216 rundlets.)} \\
 \quad \cdot \cdot \cdot \\
 \quad 28 \\
 \quad \hline
 \quad 22 \\
 \quad \hline
 \quad 14 \\
 \quad \hline
 \quad 84 \\
 \quad 84 \\
 \quad \hline
 \quad \text{Facit 216 rundlets.} \\
 (0)
 \end{array}$$

Reduction of long measure.

Quest. I demand how many furlongs, poles, inches, and barley corns will reach from London to York, it being ac- counted 151 miles.

151 miles
8 furlongs in a mile

1208 furlongs

40 poles in a furlong

48320 poles
11 half yards in a pole

4832
4832

531520 half yards
18 inches in a half yard

425216
53152

9567360 inches
3 barley corns in an inch

28702080 Answer.

Quest. The circumference of the earth (as all other circles are) is divided into 360 degrees, and each degree into 60 minutes, which, upon the superficies of the earth, are equal to 60 miles; now I demand how many miles, furlongs, perches, yards, feet, and barley corns, will reach round the globe of the earth?

360 degrees

60 minutes or miles in a degree

21600 miles about the earth

8 furlongs in a mile

172800 furlongs about the earth

40 perches in a furlong

6912000 poles or perches about the earth

11 half yards in a perch

6912

6912

2) 76032000 half yards about the earth

(38016000 yards, viz. the half yards divided by 2

3

114048000 feet about the earth

12 inches in a foot

228096

114048

1368576000 inches about the earth

3 barley corns in an inch

Facit 4105728000 barley corns

And so many will reach round the world, the whole being 21600 miles. So that if any person were to go round and go 15 miles every day, he would go the whole circumference in 1440 days, which is 3 years 11 months and 15 days.

Reduction of time.

Quest. In 28 years, 24 weeks, 4 days, 16 hours, 30 minutes, how many minutes?

ARITHMETIC.

145

Years, weeks, days, hours, minutes.

28—24—4—16—30

52 weeks in a year,

60

142

1480 weeks.

7

10364 days:

24

41462

20729

248752 hours.

60

14925150 minutes.

Note, That in resolving the last question after the method expressed, there are lost in every year 30 hours; for the year consisteth of 365 days and six hours; but by multiplying the year by 52 weeks, which is 364 days, you lose one day and 6 hours every year. Wherefore, to find an exact answer, bring the odd weeks, days, and hours, into hours, and then multiply the year by the number of hours in a year, viz. 8766, and to the product add the hours contained in the odd time, and you have the exact time in hours; which bring into minutes, as before. See the last question thus resolved.

*Days, hours.**Weeks, days, hours.*

$$\begin{array}{r} 28 \\ 8766 \end{array}$$

$$\begin{array}{r} 365 \\ 24 \end{array}$$

$$\begin{array}{r} 24 \\ 7 \end{array} \quad \begin{array}{r} 4 \\ 16 \end{array}$$

$$\begin{array}{r} 172 \\ 172 \end{array}$$

$$\begin{array}{r} 1466 \\ 730 \end{array}$$

$$\begin{array}{r} 172 \\ 24 \end{array}$$

$$\begin{array}{r} 197 \\ 228 \end{array}$$

$$\begin{array}{r} 8766 \text{ hours in a year.} \\ 694 \end{array}$$

$$\begin{array}{r} 345 \end{array}$$

$$\begin{array}{r} 249592 \text{ hours} \\ 60 \end{array}$$

$$\begin{array}{r} 4174 \end{array}$$

$$\begin{array}{r} 14975520 \text{ minutes in 28 years, and 4344 hours.} \end{array}$$

So you see, that, according to the method first used to resolve this question, the hours contained in the given time, are 248752, but according to the last, best, or truest method, they are 249592, which exceeds the former by 840 hours.

But for most occasions it will be sufficient to multiply the given years by 365, and to the product add the days in the odd time, if there be any, and then there will be only a loss of 6 hours in every year, which may be supplied by taking a fourth part of the given years, and adding it to the contained days, and you have your desire.

The Golden Rule, or Rule of Three Direct,

Is so called from its extraordinary usefulness, not only in arithmetical questions, but in all parts of the mathematics.

It is also called the rule of three, because there are always three numbers given to find out a fourth; and it is properly called the rule of proportion, because the first number bears such proportion to the second, as the third does to the fourth.

The design of this rule is, to shew how to find a fourth proportional number, by having three given numbers, which is deducible from the sixteenth proposition of the sixth book of Euclid's elements.

The Rule is,

Multiply the second and third numbers together, and divide the product by the first number, and the quotient thence arising is the fourth number sought. Or,

Divide the second number by the first, and multiply the quotient by the third, and the product is the number required: for the fourth number contains the third so often as the second contains the first. And this is called direct proportion.

All questions in this rule of three consist of three numbers, whereof two are always of one kind or denomination. As in this example.

If I give *now*. for 5 yards, what shall I give for 15 yards at that rate?

Now two of these are of the same kind, that is the numbers 5 and 15, which are both yards, which place thus. The number concerning which the question is asked, must be in the third place.

Now in this question the 15 yards is the number, and the price of which the question requires the value, place it therefore in the third place.

Then seek out the other number of the same kind or denomination, which must be yards also, which in this question is 3; set this in the first place, and then the other number, that is 10s. will consequently claim the second place, and the answer to the question will be always of the same denomination with it, which here is shillings.

Now the question stated according to the foregoing rule stands thus,

If 5 yards cost 10s. what will 15 yards cost?

$$\begin{array}{r} 15 \\ 5 \overline{) 150} (30s. \text{ Answer.} \\ \underline{15} \\ 00 \end{array}$$

Multiply the second number by the third, and divide the product by the first.

Note, That the three numbers are 5, 10, 15.

Proof of the last question.

What shall I pay for 5 yards, when 15 yards are sold for 30s.

If 15 yards cost 30s. what will 5 yards cost?

$$\begin{array}{r} 5 \\ \hline 15 \overline{) 150} (10s. \text{ Answer.} \\ 15 \\ \hline 00 \end{array}$$

What is the interest of 75 pounds, at the rate of 8l. per cent. per annum?

The numbers will be stated thus:

$$\begin{array}{rcc} \text{L. P.} & \text{L. l.} & \text{L. P.} \\ 100 & 8 & 75 \end{array}$$

In this example there are two numbers that are principal money, and one that is interest, therefore the interest (according to the rule) must stand in the middle or second place, the principal on which the interest dependeth, viz. 100l. (8 being the interest thereof) must stand in the first place towards the left hand, and the other principal on which the fourth number (which is the number sought for) dependeth, must possess the first place toward the right hand.

By these rules foregoing, you may with ease and certainty perform any operation in direct proportion, and for your further information take the examples following.

Example. If the interest of 100l. for one year be 8l, what is the interest of 75l. for the same time?

$$\begin{array}{rcc} \text{L. P.} & \text{L. l.} & \text{L. P.} \\ 100 & 8 & 75 \end{array}$$

1400 60000 (6l. Answer.

Example. If 32 rundlets of brandy cost 96*l*. what will 4 rundlets cost at that rate?

Run.	l.	Run.
32	96	4
	4	

32)384(12*l*. Ans.

64

0 Remains

Example. If 12 bags of cotton wool cost 148*l*. what will 17 bags cost?

Bags. l. Bags.
12 184 17

1288 l. s. d.
184 260 13 4 Answer.

12)3128(260*l*.

72
8 pounds remain
20 shillings multiply

12)160(13 shillings

40

4 shillings remain
12 pence multiply

12)48(4 pence

0 remains

Note, That in the last example, when a'y thing remains that is reducible to a lower denomination, after it is so

A R I T H M E T I C.

150 reduced, it must be divided continually by the first number.

Cafe.] When any of the three numbers given happen to be of divers denominations,

Rule.] You may reduce them into the lowest denomination. And if your first number require to be reduced, your third must be reduced likewise into the same denomination as the first: for the first and third numbers before you begin your operation must be always of one name or denomination.

Example. If 17 hogheads of sugar cost 32*l*. 12*s*. what will 5 of these hogheads be worth?

Hhds. 1. s. hhd*s*.
17 32*l* 12*s* 5
20

64 12 shillings } multiply
5 Hhds }
210*s*. 1*l*. 5*s*. 4*d*. 9*q*.
17) 32060 (18815 (94 5 10 2*q*
.....

150 8
146 0 remains
100

15 shillings remain } multiply,
12 pence in shill.

30
15

17) 180 (10 pence
10 pence remain } multiply
4 farthings 1*d*

17) 40 (2 farthings

6 farth. remain to be divided by 17.

ARITHMETIC.

151

Note, That when you have multiplied the second and third numbers together, and divided the product by the first, the quotient is of the same denomination as the second number is, after you have reduced it (as in the last example) into its lowest denomination given.

Example. If 4 C. rqr. 24lb. of sugar cost 14l. what will 18C. cost?

C. qr. lb.	l.	C.
4 1 24	14	18
4		18
42		18
45		18

500 lb of sugar 2016 lb of sugar } multiply
14l. Sterling

8064
2016

5100)28212456 8 11 2 $\frac{7}{100}$

32

224 pounds remain
20 shillings in 1 l. } multiply

5100)44180(8 shillings

480 shillings rem. } multiply
12 pence in 1 s.

960
480

5100)57160

7

260 pence remain } multiply
4 farthings 1d. }

5100 10/40 (2 qrs.

40 farthings remain to be divided
by 500.

Note further, That what farthings remain, to be divided by the common divisor (as in the last example) because you can reduce them to no lower denomination, you may place them over your divisor, as fractions of a farthing, which shall be explained when we come to treat of vulgar fractions, &c.

Cafe.] When the first number of the three given, is but an unit, the operation is performed by multiplication only.

Example. If I give 15 s. for a pound of thread, what will 250 pound cost at that rate?

lb.	s.	lb.
1	15	250
		15
		<u>1250</u>
		250

3750 s. answer, or 187 l. 10 s.

Example. At 14 l. 10 s. 6 d. per bag of hops; what cost 55 bags?

Bag.	l.	s.	d.	Bags.
1	14	10	6	55
	20			

290 shillings
12

3486 pence
55 the 3d numb. } multiply

17430
<u>17430</u>
191730

—pence ans. or 798 l. 17 s. 6 d.

Case.] When the third number of the three given or that toward the right hand, is an unit, such operation is performed by division only; if the number need no reducing.

Example. If 40 pieces of broad cloth cost 590*l.* what will one piece cost?

Pieces.	<i>l.</i>	Pieces.
40	590	1
490 (590 (14 <i>l.</i> or 14 <i>s.</i> answer		

—
19
—
30 pounds remain.

If one bushel of rye cost 3*s.* 6*d.* what will a half or 10 quarters cost after that rate?

First reduce the 3*s.* 6*d.* into pence, that is 42*d.* and the 10 quarters into bushels, that is 80, and set the question thus:

If 1 bushel cost 42*d.* what will 80 cost?

—
80
—
3360

The first number or place being 1, will neither multiply nor divide, then being the 3360*d.* into shillings by dividing 12 as followeth.

12)3360(280 shillings 210)2810(14l.

24

20

96
96

80
80

0

0

14l.

For the proof of this,

20

and the like questions,

280

reduce the answer into

12

pence, to know whether

your work be right, as

3360

appears in the work.

If I paid 432*l.* for 525 quarters of malt, what is the price of 1 quarter after that rate?

Which being stated stands thus:

If 525 quarters cost 432*l.* what will 1 quarter cost?

In this question you cannot multiply the second number by the third, because the third number, or place, is but one.

Therefore to perform this question with ease, reduce 432*l.* into farthings by reduction, which makes 414720 farthings to be divided, which divide by 525, the quarters of malt, and the quotient, the answer is 789*l.* farthings; the remainder after the division is ended are but the parts of a farthing.

Lastly, The 789 farthings being reduced, are 1*6s.* 5*½d.* Therefore, if 525 quarters of malt, or todcs of wool or goods, be sold for 432*l.* one quarter with cost 1*6s.* 5*½d.* after that rate. Or, which is better, reduce the 432*l.* into shillings, and it gives 8640, which divide by 525, and the quotient is 16, and the remainder 240, which multiply by 12, the product is 2880, which divide by 525, the quotient is 5 pence, and the remainder 255, that multiplied by 4, and the product 1020 divided as before, gives 1 farthing, and $\frac{432}{525}$ parts of another farthing.

If a grocer bought 5*½c.* weight of nutmegs, which cost

him 16*g*. 13*s*. 8*d*. how may he sell 1 pound weight without gain or loss?

Reduce the money into pence, it makes 39284*d*. for the dividend, and 52*g*. weight into pound weights by reduction, makes 644 pound weight for the divisor; then divide the 39284 by 644, and the quotient gives 61 pence, the price of one pound, viz. 5*s*. 1*d*.

Note, That what sum of money you desire to gain, add it to the price; and work as above, to know what you get by every single pound.

Suppose the yearly rent of 2*o*l. belonging to 4 landlords.

Reduce the 2*o*l. into farthings, and they are 1920*q*, which divided by 7, the quotient gives 2724*g* farthings for each landlord, from which you may subtract the taxes.

By the same rule you may draw a composition of debts, for if a man owe to several creditors, as suppose it comes to in all 35*l*. 16*s*. reduce it into farthings, and divide it by the number of pounds owing, &c. As,

	1 <i>l</i> . 5 <i>s</i> . 4 <i>d</i> . 9 <i>q</i> .
Suppose a man leaveth 13 <i>l</i> .	To the first 3 12 2 2
to pay his debts, and he owes	Second 4 06 8 0
one man 5 <i>l</i> . the second 6 <i>l</i> . and	Third 5 01 1 2
the third 7 <i>l</i> . which makes 18 <i>l</i> .	
what is each man's share?	13 00 0 0

If 28 quarters of barley cost 30*l*. 10*s*. 6*d*. tell me what 84 quarters come to at that rate?

If 28 qrs. cost 3*ol.* 1*os.* 6*d.* what will 84 qrs cost?

	²⁰		¹²
Shillings	610	28)615384	(21978 pence
	12	56	210 18311 6
	<u>1226</u>	55	<u>1. 91 11 6</u>
	610	28	
	<u>7326</u>	273	
Pence	84	252	
	<u>29304</u>	218	
	58608	196	
	<u>Sum 615384</u>	224	
		224	
		<u>(0).</u>	

84 qrs. comes to 91*l.* 11*s.* 6*d.*

For a proof I reduce the }
 91*l.* 11*s.* 6*d.* into pence, } 3668
 1831

21978

How many yards of cloth shall I buy for 21*l.* 10*s.* 1*½d.* when 3½ are sold for 2*l.* 14*s.* 3*d.*?

First, reduce the 2*l.* 14*s.* 3*d.* into farthings, which make 2604, for the first number; next the 3 yards and an half into quarters, which make 14 for the second number, and the 21*l.* 10*s.* 1½*d.* and it makes 20646 farthings; then multiply that by 14, and the product is 289044, to be divided by 2604, and the quotient gives 111 quarters of yards, to divide by 4 (the quarters in a yard) and the quotient is 27 yards ¾, viz. 3 quarters, for answer.

Thus stated being reduced.

Farthings	Quarters	Farthings
2604	14	20646

14

If one pound of iron cost $3\frac{1}{2}d$, what will

7 C. 3 qrs. 17 lb. cost?

4

31 qrs of an hundred
28 lb. in $\frac{1}{2}$ of an C.
— take in 17 lb.

245

63

Pounds 885 in 7 C. 3 qrs. 17 lb.
14 farthings in $3\frac{1}{2}d$.

3540
885

4) 12390 farthings answer

12) 3097½

20) 1518 1

Answer L. 12 18 1½

Note, That this example may serve for a rule to reduce hundreds, quarters, and pounds into pounds; but most tradesmen set the weights in short, thus, 7—3—17 instead of setting them as above 7 C. 3 qrs. 17 lb.

Besides, this way of proof, of reducing the total to farthings again, is most necessary for young learners, in most of the questions in the rule of three.

The Indirect Rule of Three.

In the indirect rule of three, the numbers are in reciprocal proportion, that is, the fourth number to be found is to bear the same ratio to the second as the third does to the first, but in an inverted order; that is, the greater

the third term is in respect to the first, the less must the fourth be in respect to the second.

This rule differs, in its operation, from the direct, in that, after the question is stated, and the numbers of the statings prepared (as in the direct rule) your first and second must be multiplied together, and your third number be your divisor. The quotient, as before, will be the answer.

E X A M P L E S.

Ex. 1. What number of men must be employed to finish in 12 days, what 43 men would be 35 days about?

days	men	days
35	—	43
43	—	12
	105	
	140	

12)1505
Answer 125 men

Ex. 2. How many yards of stuff 3 *qrs.* wide, will hang a room which requires 420 yards of 5 *qrs.* wide?

<i>qrs.</i>	<i>yds.</i>	<i>qrs.</i>
5	420	3
	5	
	3)2100	
	An. 700	

The reason of this operation will appear plain (after what has been said in the direct rule) by considering the last example. Now it is clear, that if of the stuff, being 5 *qrs.* wide, there are 420 *yards* required, then were the stuff but 1 *qr.* wide, 5 times 420 *yards*, viz. 2100 *yards* must be allowed; consequently, if the stuff be 3 *qrs.* wide, one third part of those yards will be sufficient; therefore 2100

divided by 3, will give the true answer required, viz. 700 yards.

To know whether a question belongs to the direct or indirect rule of three,

Observe, If the third number, being more than the first number, requires more, or, being less, requires less, it is direct; but if the third number, being more, requires less, or being less, requires more, it is indirect.

Or, without any regard to the distinction of direct and indirect; if more is required, let the lesser of the two extremes be the divisor, if less the greater.

More questions in the indirect rule of three.

If I lend A 136*l* for three months, how long must I keep 42*l*. of his to requite myself?

Answer, 9 months, 2 weeks, 6 days.

If 46 clerks in 32 days finish a piece of writing, in what time would 55 clerks accomplish the same?

Answer, 26 days, 9 hours, 9 minutes.

A garrison, consisting of 1539 men, being besieged, hath provision only for 12 days; but it being necessary they should hold out three weeks, how many men must be sent out?

Answer 660 men:

The double Rule of Three.

Questions in this rule have five numbers proposed, and are frequently answered by two statings, tho' they may be performed by one, as shall be shewn hereafter.

E X A M P L E S.

Ex. 1. The carriage of 32 hundred weight 56 miles comes to 12*s*. After the same rate, what must I pay to have 78 hundred carried 94 miles?

If 32— 12— 78

12

$$\begin{array}{r} \text{---} \text{ } s. d. \\ 32)936(29 \quad 3 \text{ facit} \\ 64 \end{array}$$

$$\begin{array}{r} 296 \\ \text{---} \\ 288 \end{array}$$

Miles.	s. d.	Miles.	---
Then, If 56	29 3	94	.. 8
	12		12

$$\begin{array}{r} 351 \\ \text{---} \\ 4 \end{array}$$

$$\begin{array}{r} 32)96(3 \\ \text{---} \\ 96 \end{array}$$

$$\begin{array}{r} 1404 \\ \text{---} \end{array}$$

0

3159

56)32994(589

280

$$\begin{array}{r} 12)589(1 \\ \text{---} \end{array}$$

$$\begin{array}{r} 499 \\ \text{---} \end{array}$$

$$\begin{array}{r} 210)419 \\ \text{---} \end{array}$$

$$\begin{array}{r} 448 \\ \text{---} \end{array}$$

Facit 21. 9s. 1d.

$$\begin{array}{r} 514 \\ \text{---} \end{array}$$

$$\begin{array}{r} 504 \\ \text{---} \end{array}$$

10

Note. The solution had been the same, if the miles had been made first and third numbers of the first stating; and the C. weights the first and third numbers of the last.

Note also, This example may be done by one stating, thus:

$C.$ $s.$ $C.$
 If 32—12—78
 56 miles 94 miles

192	312
160	702
1792	7332
	12

1792)87984(49	$s.$ $d.$
7168	or
16304	$l.$ $s.$ $d.$
16123	

..1'6
 12

1792)2112(1
 1792

320

Ex. 2. How many men must be employed to reap 420 acres in 17 days, if there were required 37 men to reap 54 acres in 5 days?

Acres	men.	acres.
First, 54—	37—	420
		37

—
 2940
 1260

Days	men.	days.
Then, If 5—	287—	17
	5	54)15540(287
		108

57)145(84	474
136	432
..75	420
68	378

Answer 84 men 42

Note, If you would work such questions of the double rule of three as have one of their proportions indirect, by one stating, you must multiply the third number of your stating by that number you would otherwise have placed under your first; and your first number by that you would have placed under your third, as in the following example.

Example.

Acres. men acres.		
If 54	37	420
* 17		5
		} The number of days which
378	2100	have relation to the 54 acres.
54	37	
910	14700	
	6300	
* The num. —men		
bar of days 918) 77700 (84 answer as before		
which have	7344	
relation to		
420 acres	4260	
	3672	
	588	

Of Exchange.

HA V I N G explained the nature of the rule of three, and the manner of resolving questions therein, I am naturally led to treat of its particular use in the exchange of coins.

In the exchange of coins, it is necessary that the par or value of the money in each place be exactly known: for the word par signifies to equalize the money of exchange from one place with that of another place. As when I take up so much money par exchange in one place, to pay the just value thereof in another kind of money in another place, without having respect to the price current of exchange for the same, but only to what the money

does currently pass for in each place. From whence may be easily found out the profit and loss of all monies drawn, and remitted by exchange. But this part being ground, ed principally upon the current value of coin, the plenty and scarcity thereof, the rising and falling, inancement and debasing of the same, it must necessarily follow, that the value of coin is subject unto change. An example whereof you have in France, where their coin has been changed, enhanced and lowered several times in a few years; and in the year 1720, the French crown, which was fifty sous, or three livres, is now raised to seventy five sous, or three livres, fifteen sous.

The denomination in which England and the following places exchange with others are, viz.

The exchange of monies from London to Antwerp, Amsterdam, Hamburgh, Lisse, Middleburgh, and other parts of Flanders and Holland, is valued on the pound sterling of 20 shillings: that is to pay after the rate of so many shillings and pence Flemish, for every pound sterling.

The exchange from London to Paris, Roan, and most parts of France, is valued on the French crown at 54*d*. that is, to pay so many pence, or so many shillings and pence sterling, for the French crown.

The exchange from London to Venice is made on the ducat at 52*d*. sterling, to pay so many pence or parts of a penny sterling for every ducat.

The exchange from London to Leghorn, Genoa, Calais, Madrid, and other parts of Spain, is made on the dollar or piece of eight, at 54*d*. sterling, that is, to pay so many pence or parts of a penny sterling for every dollar.

The par at Antwerp, Amsterdam, Hamburgh, Lisse, Middleburgh, and other parts of Flanders, with one pound sterling, is thirty three shillings four pence Flemish, for a pound sterling: which thirty three shillings four pence do make 10 guilders at two shillings sterling the guilder, or 10 livres Turnois.

The par at Paris, Roan, and other parts of France has been reckoned sometimes at 71 sous the crown of 3 livres Turnois, generally at 60 sous the crown of 3 livres, every livre valued at 1*s.* 6*d.* sterling, the crown valued at 4*l.* 6*d.* sterling.

The par at Leghorn, Madrid, Calais, Genoa, is at 54 pence sterling for the dollar or piece of eight.

The par at Venice with our sterling money is at 6 livres, 4 sous of Venice per ducat, or 5*p* pence sterling, sometimes 52 pence.

The Hamburg par is sometimes reckoned at 4 rix dollars and a half, which make 32 shillings Flemish for 20 shillings sterling.

The par at Lisbon is at 6*s.* 8½*d.* on the milrea or 1000 reas.

The par at Oporto is the same as that at Lisbon.

The value of the most usual coins with which England does chiefly exchange are, viz.

	Sterling money,
	<i>s. d.</i>
1 silver is — — — — —	0 1½
6 silver of 1 <i>s.</i> Flemish is — — — — —	0 7½
2 Flemish shilling — — — — —	1 8
20 silver is 1 guilder, or — — — — —	2 0
6 guilders 1½ Flemish, 20 <i>s.</i> is — — — — —	12 0
33 <i>s.</i> 4 <i>d.</i> Flemish, is — — — — —	20 0
1 Zealand common dollar is — — — — —	3 0
1 Ducaton — — — — —	5 6
1 Specie dollar — — — — —	5 0
France.	
12 deniers; or 1 soluz is — — — — —	0 3½
20 soluz or livre is — — — — —	1 6
3 livres, or a French crown — — — — —	4 6

Sterling money.

Spanish money.

13½ maldades	—	—	—	—	0 0½
37½ malvades, or 1 royal	—	—	—	—	0 6½
7½ royals is 1 ducat	—	—	—	—	4 4
8 royal piece of copper	—	—	—	—	4 6
1 royal copper	—	—	—	—	3 0
17½ ditto copper is 1 piece of eight, or	—	—	—	—	4 6

Portug.

12½ reas of Portugal	—	—	—	—	0 1
1 mitea, or 1000 reas	—	—	—	—	6 8½
1 telloa is	—	—	—	—	1 3

Italy.

1 livre at Leghorn is	—	—	—	—	0 9
1 crown current at Florence is	—	—	—	—	5 3
1 ducat du banco at Venice	—	—	—	—	4 4
1 St. Mark	—	—	—	—	2 10
1 Palermo florin is	—	—	—	—	2 6

Germany.

1 rix dollar of the empire	—	—	—	—	4 4½
4½ rix dollars make 32 Flemish at	—	—	—	—	20 0
Hamburg, &c.	—	—	—	—	7 1
1 guilder of Noremberg	—	—	—	—	7 1

A merchant in London remits to Rotterdam 375 l. 10s sterling, at 34s. 8d. for 20s sterling, how many guilders Flemish must be paid at Rotterdam, and what is gained per exchange?

	<i>l. s. d.</i>	<i>l. s. d.</i>
20 35 8	what 375 10 0	
22		

416

7510
416

45060
7510

30040

Eggers, Rivers. 210) 37241610

Answer 3904--4

2) 156208

210) 781014

3905

To find the gain or loss in one product, subtract 33s. 4d. out of 34s. 8d. the course of exchange, the difference is 1s. 4d. Flemish per pound, and so much gain is the course of exchange in our favour.

If the course of exchange be under par, it must by parity of reason become a loss to us, and then the course of exchange is to our prejudice.

The like is to be observed for the coins exchanged in all other countries.

I will give but one example of loss by exchange, by which, with the foregoing example of gain, the ingenious may with ease travel through the general course of exchange with all countries.

A merchant in London remits a bill of exchange to Amsterdam for 297*l.* 15*s.* sterling, and 31*s.* 3*d.* Flemish for 10*s.* sterling. I demand how much Flemish money was paid for the said bill at Amsterdam, and what is lost per pound by exchange?

$\begin{array}{r} 1. \\ 20 \end{array}$ $\begin{array}{r} 1. \\ 31 \end{array}$ 3 Flemish 297 15 Sterling.
 Answer, 2791 Guild. 8s. paid, and 2s. 1d. Flemish per
 pound lost by the exchange.

Arithmetical Progression

I S when a rank or series of numbers differ orderly from one another, by some common number.

To find the sum of any arithmetical progression, add the first and last numbers together, and multiply that sum by half the number of places, and the product is the sum.

But if the number of places be odd, multiply the said number of places by half of the first and last added, and that product is the sum.

1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16.

What the sum?

16 Last

1 First

17 Sum

8 Half of the number of places

136 Sum of the whole

Suppose a man hireth a room for a year, and agreeth to pay the first week 5*d*. for the second week 9*d*. and for the third week 13*d*. so paying every week 4*d*. more until 52 weeks or a year is finished, I demand what the rent will come to?

Answer 23*d*. 3*s*. 8*d*.

Here you are to consider that the common increasing number is 4*d*. so that the last week must amount to 51 times 4, added to the pay of the first week, which is 5*d*. then will the last week come to 209 pence, then work as in the example.

12) 5564 (468.

Product 204
5

76
72

Added 209 the last week
5 the first week

44
36

Added 214

84.

26 half weeks in the year

210) 4613 (21. 39. 84.

1284

428

Pence 5564

Geometrical Progression.

Suppose one fold 12 ells of cloth, to receive for the first ell 1*d.* the second 2*d.* the third 4*d.* and so on doub-
ling, what is paid for the 12 ells?

O, 1, 2, 3, 4, 5, 6.
1, 2, 4, 8, 16, 32, 64.

32

128

192

2048

2

Ans. 4069 pence

Note, that if this question had been for a farthing a
burton, or the like, the answer would have been farthings.

Suppose one sold a horse having 4 shoes, and every
shoe 6 nails, to receive for the first nail 1 farthing, the
second nail 2 farthings, the third nail a penny, and so

doubling, how much is paid for the last nail, and the price of the hovel?

Answer 17476l. 5s.

0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12.
1, 2, 4, 8, 16, 32, 64, 128, 256, 512, 1024, 2048, 4096.

4096

12288

18432

81920

8388608

2

Farthings 16777216

Or if this question had been a coat sold at a barley-corn a button, and so doubling to 24 buttons (accounting 900 corns to a pint) I divide the 16777216 by the 900 corns, the quotient gives about 18641 pints, which divided by 64 (the pints in a bushel) the quotient gives about 262 bushels, or about 36 quarters of barley for the coat.

The Rule of Fellowship or Company

MAY fully be divided into gain, loss and time.

A general rule,

As general stock to general profit bears,
So each man's stock in general profit shares.

That is to say,

Every man's particular stock being added together, the total must be the first number in the rule of three, the gains the second, and every man's particular stock the third; as,

Suppose two bookellers in company, Y laid in 20l. Z laid in 40l. whereby was gained 50l. what is each man's part of the gain?

P.

$$\left. \begin{array}{r} Y \ 20 \\ Z \ 40 \\ \hline 60 \end{array} \right\}$$

If 60*l.* gain 50*l.* what will 20*l.* gain?

$$\begin{array}{r} 20 \\ \hline 6,0)1000(19\text{ }13\text{ }4\text{ }d. \end{array}$$

$$\begin{array}{r} 40 \\ 36 \\ \hline 4 \end{array}$$

If 60*l.* gain 50*l.* what will 40*l.* gain?

$$40$$

$$6,0)2000(33\text{ }6\text{ }8\text{ }d.$$

$$18$$

$$l. \ s. \ d.$$

$$—$$

$$33 \ 6 \ 8$$

$$20$$

$$16 \ 13 \ 4$$

$$18$$

$$\text{Proof } 50 \ 00 \ 0$$

$$—$$

$$2$$

Suppose two merchants make a flock, B laid in 45*l.* and C laid in 68*l.* whereby was gained 32*l.* how muſt the gain be divided?

If 113*l.* gain 32*l.* what will 45*l.* gain?

$$\left. \begin{array}{r} B \ 45 \\ C \ 68 \\ \hline 113 \end{array} \right\}$$

$$45$$

$$160$$

$$128$$

$$113)1440(12\text{ }1\text{ }14 \text{ B's part}$$

$$113$$

$$310$$

$$226$$

$$84$$

A R I T H M E T I C.

171

If 113/. gain 32/. what will 68/. gain?

68

256

192

113)2176(19/. 11² C's part

113

1046

1017

29

The 29 of the fraction multiplied by 240, the pence in 20/. and the product divided by 113, the quotient tells the pence.

Suppose three merchants, F, G and C, join their monies to make a stock of 25000/. of which F laid in 10000/. G 8000/. and C 7000/. with this, after a certain time of trading, they gained 7500/. how must this be parted?

If 25000/. gain 7500, what will 10000 gain?

10000

251000)750000(30000/. F's part

75

0000

If 25000/. gain 7500/. what will 8000/. gain?

8000

251000)600000(24000/. G's part

50

100

100

0

If 2500*l.* gain 7500*l.* what will 7000*l.* gain?

$$\begin{array}{r}
 25,000)52500(2100 \text{ C's part} \\
 \underline{50} \qquad \qquad \qquad \text{F } 3000 \text{ l.} \\
 25 \qquad \qquad \qquad \text{G } 2400 \text{ l.} \\
 \underline{25} \qquad \qquad \qquad \text{C } 2100 \text{ l.} \\
 0 \qquad \qquad \qquad \text{Stocks added} \\
 \qquad \qquad \qquad \underline{7500}
 \end{array}$$

The Rule of Fellowship with Time.

The Rule.

EVERY man's Stock must be multiplied by his time, and the total of these products added together, is the first number, the gain or loss the second number, and the product of every man's particular Stock and time the third number.

Suppose two merchants in company, A laid in 100*l.* for 4 months, B put in 136*l.* for 3 months, and they gained 50*l.* what is each man's part?

$$\begin{array}{r}
 \text{A put in } 100 \text{ l.} \quad \left. \vphantom{\begin{array}{l} \text{A put in } 100 \text{ l.} \\ \text{B put in } 136 \text{ l.} \end{array}} \right\} \text{multiply by } \left\{ \begin{array}{l} 4 \\ 3 \end{array} \right\} \text{give } \left\{ \begin{array}{l} 400 \\ 408 \end{array} \right\} \\
 \text{B put in } 136 \text{ l.} \quad \left. \vphantom{\begin{array}{l} \text{A put in } 100 \text{ l.} \\ \text{B put in } 136 \text{ l.} \end{array}} \right\} \\
 \hline
 808
 \end{array}$$

If 808*l.* gain 50*l.* what will 400*l.* gain?

$$\begin{array}{r}
 400 \\
 \hline
 808)20000(24 \text{ l. } \frac{608}{808} \text{ A's part} \\
 \underline{1616} \\
 3840 \\
 \underline{3232} \\
 608
 \end{array}$$

If 808*l.* gain 50*l.* what will 408*l.* gain?

$$\begin{array}{r}
 400 \\
 2000 \\
 \hline
 808)20400(25\text{ }l. \text{ } \frac{200}{100} \text{ B's part} \\
 1616 \\
 \hline
 4240 \\
 4040 \\
 \hline
 200
 \end{array}$$

Suppose three farmers, as A, B and C, hold a pasture, for which they pay 45*l.* per annum, A hath 24 oxen 32 days, B hath 12 there 48 days, and C fed 16 oxen there 49 days, what must every man pay of the rent?

Oxen.	Days.	
A 24	multiplied by	$\left\{ \begin{array}{l} 32 \\ 48 \\ 49 \end{array} \right\}$ give
B 12		
C 16		
		$\left\{ \begin{array}{l} 768 \\ 576 \\ 384 \end{array} \right\}$
		$\begin{array}{r} 1728 \\ \hline \end{array}$

RULES of PRACTICE.

The even parts

Of a pound	Of a shill.	Of a hund
<i>s.</i> d. l.	<i>d.</i> <i>s.</i>	<i>lb.</i> <i>c.</i>
10—0— $\frac{1}{2}$	6 — — — $\frac{1}{2}$	56 — — — $\frac{1}{2}$
6—8— $\frac{1}{4}$	4 — — — $\frac{1}{4}$	84 — — — $\frac{1}{4}$
5—0— $\frac{1}{2}$	3 — — — $\frac{1}{2}$	28 — — — $\frac{1}{2}$
4—0— $\frac{1}{4}$	2 — — — $\frac{1}{4}$	14 — — — $\frac{1}{4}$
3—4— $\frac{1}{8}$	1 $\frac{1}{2}$ — — $\frac{1}{8}$	16 — — — $\frac{1}{8}$
2—6— $\frac{1}{8}$	1 — — — $\frac{1}{8}$	8 — — — $\frac{1}{8}$
2—0— $\frac{1}{16}$		7 — — — $\frac{1}{16}$
1—8— $\frac{1}{16}$		

1. When the given price is pence, take your parts in shillings, the product divided by 10 gives the answer in pounds.

Or, you may bring it into pounds, at once, by cutting off the last figure, and by considering that 240 pence is 1 pound, whereof 8d. is $\frac{1}{3}$ 6d. is $\frac{1}{2}$ 4d. is $\frac{1}{3}$ 3d. is $\frac{1}{10}$ 2d. is $\frac{1}{10}$.

E X A M P L E S.

254 lb. of tobacco at 1d		716 clls at 3d.	
$\frac{1}{15}$	211 2d.	d.	$\frac{1}{3}$ 8 19 0 facit
L. 1	1 2 facit	$\frac{1}{3}$	215 lb. at 4d.
254 lb. at 2d.		d.	$\frac{1}{5}$ 11 8 facit
$\frac{1}{6}$	42 4	d.	430
L. 2	2 4 facit	$\frac{1}{10}$	643 Gall. at 6d.
		d.	$\frac{1}{10}$ 16 1 6

The three last examples are brought into pounds at one operation, after which manner any sum of practice may be readily cast up.

Here you may see that 254 pounds of tobacco at 1d. a pound, divided by the $\frac{1}{15}$, gives 211s. 2d. and that divided by 20, by cutting off the last figure, and taking $\frac{1}{3}$ of it, gives 11s. 1s. 2d. the price of 254 pounds of tobacco; and for 2d. the pound take the $\frac{1}{6}$, because 2d. is the $\frac{1}{6}$ part of a shilling, and for 3d. a pound take $\frac{1}{2}$, and so for the others at 4d. and 6d.

2. When the given price is such pence as are no even part of a shilling, take the first greatest even part of a shilling, and then part of that part; add them together, and divide the product by 20, or cut off the last figure, and take $\frac{1}{2}$.

d. 2121 ells at $3d.$

748 lb. at $7d.$

$6d.$ is $\frac{1}{2}$ or 374
of which $1d.$ or $\frac{1}{2}$ is 624

4	707	s.
1	176	9
5	883	9
	443	9 facit

436
L. 21 16 4

254 lb. of tobacco at $9d.$ and $10s$ a pound.

<i>d.</i> 6	127	
4	63	6
9	150	6
	9	10 6 facit

<i>d.</i>	254 at $10\frac{1}{2}d.$
	127 shillings in 254 $6d.$
	84 8 in 254 groats
	10 7 in 254 halfpence
	5 3 in 254 far.

2217 6 $\frac{1}{2}$
11 7 6 $\frac{1}{2}$ facit

Demonstration. In 254 pounds of tobacco at $10\frac{1}{2}d.$ a pound, there must be 254 sixpences, which is 127 shillings, and 254 groats, which is 84s 8d. and 254 halfpence, which is 10s. 7d. and 254 farthings, which is 5s. 3 $\frac{1}{2}d.$ all these added together, make 227s. 6 $\frac{1}{2}$, which divided by 20, gives the answer 11l. 7s. 6 $\frac{1}{2}d.$

<i>d.</i>	614lb. at $11d.$		563lb. at $11\frac{1}{2}d.$
6	307	6	281 6d.
4	204 8d.	4	187 8
1	52 2	1 $\frac{1}{2}$	70 4 $\frac{1}{2}$
11	5612 10		5319 6 $\frac{1}{2}$
	2 2 10 facit		26 19 6 $\frac{1}{2}$ facit

3. If the given price be any number of pence above 1s., and less than 2s. take the aliquot parts in pence, as in the last precedent, to which add the given quantity for 1s. and proceed as before.

EXAMPLES.

$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$
244 lb. at 15d.	254 lb at 17d.	17 19 10	295 gallons at 19d.
63 6	84 8	147 6	456 ells at 25 $\frac{1}{2}$ d.
3117 6	21 2	24 7	228
15 17 6 facit	3519 10	4617 1	152
			38
			9 6
			8813 6
			44 3 6 facit
$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$
264 yards at 18d.			
132			
3916			
19 16 0 facit			
672 lb. at 22 $\frac{1}{2}$ d.			
336			
224			
42			
12714			
63 14 0 facit			

In 672 lb at 22 $\frac{1}{2}$ a lb I take $\frac{1}{2}$ for 6 d. the $\frac{1}{2}$ for 1 d. and the $\frac{1}{2}$ for the $\frac{1}{2}$ because $\frac{1}{2}$ is the $\frac{1}{2}$ of 6d. by which you will find that in 672 fixpences there is 336 shillings, and in 672 groats there is 224 shillings, and in 672 three farthings there are 42 shillings.

4. If the given price be such shillings as are an even part of a pound sterling, take such a part of the given quantity, and the quotient is pounds.

Ells s. d.	Yards
433 at 1 8	271 at 2s.
36 1 8 facit	27 2 0 facit
674 at 2s. 6d.	495 at 3s. 4d.
83 5 0 facit	83 10 0 facit

Crowns	Dollars
<u>457 at 5s.</u>	<u>612 at 4s.</u>
$\frac{1}{2}$ 114 5 0 facit	$\frac{1}{2}$ 122 8 0 facit
<u>295 at 6s. 8d.</u>	<u>372 at 10s.</u>
$\frac{1}{2}$ 98 6 8 facit	$\frac{1}{2}$ 186 0 0 facit

In this first example of 433 ells at 1s. 8d. I take the $\frac{1}{2}$, because 1s. 8d. is the $\frac{1}{2}$ of 1l. and say, 12 in 43 is 3 times, rest 7, which makes the 3 to be 7s, then 12 in 73 is 6 times, rest 1, which 1s. 8d. I put down as above.

5. If the given price be such shillings and pence as are no even part of a pound, multiply the given quantity by the number of shillings, and take the aliquot parts of pence, and proceed according to the second rule.

Ells
<u>375 at 8s. 6d.</u>
$\frac{1}{8}$
<u>3000</u>
187 6
<u>3187 6</u>
159 7 6 facit

Ells
<u>493 at 15s. 10d.</u>
$\frac{1}{15}$
<u>2465</u>
493
<u>246 6d.</u>
164 4d.
<u>780 5 10</u>
390 5 10 facit

C. s. d.
<u>295 at 12 9</u>
$\frac{1}{12}$
<u>3540</u>
147 6
<u>73 9</u>
376 13
<u>188 1 3 facit</u>

C. s. d.
<u>214 at 7 11</u>
$\frac{1}{7}$
<u>1498</u>
107
<u>53 6</u>
35 8
<u>169 14 2</u>
84 14 2 facit

6. If your given price be any number of pounds, shillings, and pence, reduce first your pounds and shillings into shillings, and proceed according to the last rule.

Pieces	<i>l.</i>	<i>s.</i>	<i>d.</i>	Tuns	<i>l.</i>	<i>s.</i>	<i>d.</i>
754 at 4	3	7		176 at 3	7	10	
83	20			67	21		
2262	83			1232	67		
6032				1056			
377							
62	10			11792			
				88			
63021	10			58	8		
3151	1	10	facit	119318	8		
				596	18	8	facit

7. If your given price be any number of pounds, and exceeding five pounds, then multiply your given quantity by the number of pounds, and take your aliquot parts in shillings and pence, viz.

<i>C.</i>	<i>l.</i>	<i>s.</i>	<i>d.</i>	<i>Hhd.</i>	<i>l.</i>	<i>s.</i>	<i>d.</i>
74 at 11	12	6		394 at 16	16	3	
11				16			
814				2364 } at 16 <i>l.</i>			
37	<i>d.</i>			394			
9	5	0		197 at 10 <i>s.</i>			
				98.10 at 5			
860	5	0	facit	19 14 at 1			
				4 18 6 at 3 <i>d.</i>			
				6624	2	6	facit

8. If the given quantity be any number of C. qrs. or pounds; or tun, C. qrs. or pounds, &c. work as before where no part is, and take your aliquot parts in quarters and pounds, or in C. qrs. and pounds, and add them to your first work. An example or two will make this plain.

C. s. d.	C. s. d.
75½ at 22 10	63½ at 12 10
22	12 mul.
150	756 s.
150	31 6d.
37 6	21
11 3	9 7½ C.
169 8 9	818 1 Sum
84 18 9 facit	40 18 1½

In the example of 63 C $\frac{1}{2}$, at 12s. 10d. the C. weight, I multiply. the C. by 12s, and take the parts in pence for the odd pence; then for the $\frac{1}{2}$ of C. I first take the $\frac{1}{2}$ of the price of a C. and that makes 6s. 5d. the price of $\frac{1}{2}$ a C. and then I take the half of that, which gives 3s 2½d. the price of a gr. of a C. Add them together, it gives the price of $\frac{1}{2}$ of a C. which is 9s. 7½ and must be added to your first work. Two or three examples more will make it familiar and easy to any capacity.

84 C. 3grs. 11lb. at — — — — — 21s. 10d.	
21	
84	10 11
168	5 5
42	4 4
28	1 1
18	0 9
6	4 4
185 12 6	
92 12 6	

The price of 3
grs. 11 lb.

Tuns.	C.	qr.	lb.	l.	s.	d.
12	14	3	14	at 15	17	.06 a tun
						12

190	10	00
$\frac{1}{2}$ 7	18	9
$\frac{1}{4}$ 3	3	6
$\frac{1}{8}$ 0	7	$11\frac{1}{2}$
$\frac{1}{16}$ 0	3	$11\frac{1}{2}$
$\frac{1}{32}$ 0	1	$11\frac{1}{4}$

Facit 202 06 01 $\frac{1}{2}$

The Order of deducing Tare and Tret.

Cross is the weight of a commodity, with the hogsthead, chest, box, or whatever the container is.

Tare is the allowance given for the weight of the cask, hogsthead, &c.

Tret is an allowance of 4 pounds in 104 pounds, for waste and dust on some sort of goods.

C. *qr.* *lb.* *lb.* *lb.*
 Example $\ddagger$ *bbd.* *ql.* 45 3 15 gross, take 14 per 112
 14 $\ddagger$ how many *lb.* neat
 5 2 26 tare

Answer 40 0 17

1. Here 14 pounds tare being $\frac{1}{8}$ of 112 pounds, take $\ddagger$ of the gross, the quotient gives the whole tare, which subtract from the gross, gives the neat weight.

The operation is performed thus: divide the gross by 8, say 8 in 45 $\frac{1}{8}$ times, and 5 *C* remains, which is 20 *qrs.* and 3 is 23: then 8 in 23, 2 times, 7 *qrs.* remain, which turned into pounds by 28, and added to the 15 pounds, make 211 pounds, then 8 in 211 is 26 times. So the tare is 5 *C.* 2 *qrs.* 26 pounds.

C. gr. lb.

s. d.

Example. 40 0 17

Neat at 22 6

22

lb.

$$\begin{array}{r} 80 \\ \hline 22 \end{array}$$

$$\begin{array}{r} 14\frac{1}{2} \quad 2 \quad 9 \quad \frac{1}{2} \\ 2\frac{1}{2} \quad 0 \quad 4 \quad \frac{1}{2} \\ 1\frac{1}{2} \quad 0 \quad 2 \quad \frac{1}{2} \\ \hline \end{array}$$

20

0 3 4 $\frac{1}{2}$ facit 3 4 $\frac{1}{2}$
price of 17 lb.90 10 3 4 $\frac{1}{2}$ l. 45 3 4 $\frac{1}{2}$

If the tare be 16 pounds in 112 pounds, take $\frac{1}{7}$ of the gross, and work as before.

If 18 pounds per 112 pounds, for tare, take the aliquot parts, viz.

For 16 lb. take the $\frac{1}{7}$ } Add the tare of 16, and the tare
For 2 take the $\frac{1}{7}$ } of 2 together, the total subtrahend
from the gross, and work as before.

lb. lb.

lb.

If 20 in 112 for tare } for 16 take $\frac{1}{7}$ lb.
for 4 take $\frac{1}{7}$ of 16

2. When an allowance is made for tret, then (after the tare is subtracted from the gross) the remainder is called futtle, which divide by 26 (because 4 pounds is the 26th part of 104, the allowance always given for tret) the quotient gives the tret, which subtracted from the futtle, gives the neat weight.

C gr. lb. lb. lb. lb.
 Example. 45 3 15 gr. tare 16 in 112 tret 4 in 104.
 16 $\frac{1}{2}$ 6 2 c6 tare

39 1 09 futtle
 4

4)104

26

157
 28

1265

314

4405 pounds futtle

169 tret

26)4405

—180

169 245

4236 neat pounds at 6*d.*

11

6 $\frac{1}{2}$ 211*s.*

l. 10*s* 18 0 facit.

3. If the allowance for tare be 8 pounds, 10 pounds, 12 pounds, in 112, or any other lesser number, whether an aliquot part of 112 or not, in such cases divide the gross into two parts by 2, which will make it half hundreds, then say, 8 is $\frac{1}{2}$ of $\frac{1}{2}$ C. or, of 12 pounds in 112 pounds.

Rule. From $\frac{1}{2}$ of the gross, take $\frac{1}{2}$ of that 8*th* for tare at 12 per cent. When you have found tare subtract it always out of the whole gross.

I might enumerate examples, but these being sufficient to instruct any ordinary capacity in tare and tret,

I shall proceed to shew some other abbreviated ways of casting up goods and merchandize.

For retailers of small parcels, as mercers, linen and woolen drapers, haberdashers of hats, &c.

THE most abbreviate and ready way is to multiply the price by the quantity.

Example. Sold 7 yards of cloth, at 14^s. 6^d. a yard.

7

Ans. L. 5—1—6

Say 7 times 6 is 42, which is 3^s. 6^d. set down 6 pence and carry 3 shillings to the place of shillings, and say, 7 times 4 is 28, and 3 I carry is 31, set down 1^s. and carry 3 angels to the place of tens of shillings, and say, 7 times 1 is 7, and 3 I carry is 10 angels, which is 5^l. fix the 5^l. in the place of pounds; so the price of 7 yards is 5^l. 1^s. 6^d.

Example. Sold 11 yards and $\frac{1}{2}$ at 23^s. 3^d.

11

L 7—5—9
the $\frac{1}{2}$ yard 6—7 $\frac{1}{2}$

Ans L 7 12 4 $\frac{1}{2}$

For half a yard, take half of 13^s. 3^d. and add to the product of 11 yards.

Object. There are many numbers under 100 that are not included in the multiplication table, or being multiplied together, will not produce the given quantity: and so consequently cannot be done by this new way of practice.

Ans. It is very true, there are several numbers under 100, that no two numbers multiplied together can produce them, such as 13, 17, 19, 25, 29, 31, 33, 37, and many more.

Rule. In such cases, multiply by two such numbers, as being multiplied together will come nearest to such odd numbers; then multiply the price by that part which wants to make up the given quantity. An example of which follows.

r. d.
Example. 29 ells at 7—9

7 Here I multiply by 7 and
— because 7 times 4 is 28,
2—14—3 and for the odd ell to make
4 it 29, I add the price of the
— ell to the product.

10—17—0 Ans. 11*l.* 4*s.* 9*d.*
7—9

Ans. 11—04—9

F R A C T I O N S

Are of two kinds } V U L G A R
and
D E C I M A L.

A Vulgar fraction is caused by division of whole numbers, the remainder of which being less than the divisor, called the numerator, is always the dividend, and the denominator is the divisor.

3 Numerator.
4 Denominator.

A decimal fraction is such a one, whose denominator is understood, and therefore need not be expressed: and is an unit with as many cyphers following, as there be figures and cyphers in the numerator.

Decimal fractions, whether they stand alone, or be joined with integers, have always a comma or point before them to distinguish them from integers, as, 5 ,560042.

In decimals the value of every figure or cypher decreases by a tenfold proportion from the units place towards the right hand, as the whole numbers do increase the value towards the left hand, by a like proportion, as you may see in the following table.

Whole numbers.		Decimals.	
6	C Thouſ.	2	Tens.
5	X Thouſ.	3	Hund.
4	Thouſ.	4	Thouſ.
3	Hund.	5	X Thouſ.
2	Tens.	6	C Thouſ.
1	Units.		

Cyphers before integers, and at the end, or right hand of decimals, are of no value; but after integers, and before decimals, they have their value; for in integers they increaſe, and in decimals they diminiſh the value of the other figures joined with them.

The integers 005 is but 5, and 004 is but 4, and 06 is but 6.

But in decimals, .005 is $\frac{5}{1000}$, and .004 is $\frac{4}{1000}$, and .06 is $\frac{6}{100}$.

And again, in integers 500 is five hundred, and 400 is four hundred.

In decimals 500 is but 5, and 400 is but 4, &c.

Next to the abbreviation and valuation of vulgar fractions, there is little required, but to know how to bring a fraction of a leſſer name into a fraction of a greater name, and to reduce fractions of diſerſe unequal denominators to one common denominator, which being well underſtood, you may with as much eaſe add, ſubtract, multiply and divide a fraction as you can a whole number.

In decimals a fraction is ſeldom abbreviated: therefore,

1. To abbreviate any vulgar fractions, find ſuch a number for dividing both the numerator and denominator thereof ſo, that no remainder be on either of the diviſions.

Example. Abbreviate $\frac{96}{120}$ into $\frac{4}{5}$ its loweſt term.

Say, 12 in 96, 8 times, and 12 in 120, 10, then the fraction is $\frac{8}{10}$; then ſay, 2 in 8, 4 times, and 2 in 10, 5 times, then the fraction is $\frac{4}{5}$, ſo that 4 is to 5, as 96 to 120.

2. To know what part of a pound ſterling any number

of shillings and pence is, bring the shillings and pence into pence for a numerator, and place 240 under it (the pence of one pound) for a denominator.

Example. What part of a pound is 11s. 3d.?

Facit $\frac{113}{240}$.

3. To reduce vulgar fractions into decimals, add cyphers at pleasure to the numerator, and divide by the denominator. Example, viz.

Reduce 11s. 3d. into a decimal fraction.

$$\begin{array}{r} 12 \\ \hline 135 \\ \hline 240 \end{array} \quad \begin{array}{r} 240 \\ \hline 150 \\ \hline 60 \end{array} \quad \begin{array}{r} 1350000 \\ \hline 1500000 \\ \hline 600000 \end{array}$$

Numer. facit 5625 120 0

Or, $\frac{113}{240}$, or, .5625.

Example. Reduce $\frac{7}{8}$ into a decimal fraction.

$$\begin{array}{r} 5) 400 \\ \hline ,800 \end{array}$$

Or rather 8

Facit, 800

4. To value a vulgar fraction, multiply the integer in to the numerator, and divide by the denominator.

What is the $\frac{3}{4}$ of a pound sterling?

$$\begin{array}{r} 20 \\ \hline 5 \\ \hline 8) 100 \\ \hline 4 \\ \hline 84d. \end{array} \quad \begin{array}{r} s. \\ \hline 12 \\ \hline 6 \end{array}$$

Facit

An ell worth 7—9 what is $\frac{2}{3}$ worth?

$$\begin{array}{r} 5) 15 \\ \hline 3 \\ \hline 15 \end{array}$$

Facit 3—15

5. To value a mixt number, multiply the mixt number by the numerator, and divide by the denominator. Example.

1.

5. 6. d.

A ship worth 794—11—9 what is $\frac{2}{3}$ worth?

5

$$\begin{array}{r} 8) 3972-18-9 \\ \text{Facit } 496-12-4\frac{1}{8} \end{array}$$

6 To value a decimal fraction, expressing coin; every prime or unit in the first place is 2s. value: every 5 in the second place 1s. and the rest farthings; but if they exceed $\frac{10}{100}$ there must be one farthing abated.

Reduce $\frac{7}{8}$ of a pound into a decimal fraction.

9), 700000

,77777

Here 7 primes is 14s. and 5 taken out of the second place is 1s. which makes 15s, then 2 remains, which is 27 to the thirds, or place of farthings, out of which abate 1 for $\frac{10}{100}$, it makes 15s. 6 $\frac{1}{4}$ d. which is the $\frac{7}{8}$ of a pound sterling.

7. To reduce vulgar fractions to a common denominator, multiply the numerator of each fraction into every denominator, except its own, which makes that product of a new numerator; then multiply all the denominators together, and that product is one common denominator to all the new numerators. Example.

Reduce $\frac{3}{4}$. and $\frac{1}{2}$. into a common denominator.

Facit $\frac{6}{8}$ and $\frac{4}{8}$.

Here 12 is the common denominator to both the new numerators, viz. 8 and 9, and you find that 8 is to 12 as 2 to 3, and 9 is to 12, as 3 to 4.

So that $\frac{8}{12}$ is to $\frac{2}{3}$ and $\frac{9}{12}$ to $\frac{3}{4}$.

Reduce $\frac{1}{2}$, and $\frac{1}{3}$, and $\frac{1}{4}$ of a pound to a common denominator.

To prove your work, divide your $4 \frac{18}{8}$ ———
 new numerator by the numerator 6 18 40 42
 of that fraction, and divide the common denominator of the fraction 24 ——— 8 4 4
 by the denominator; if both quotients are equal, your work is true. $8 \frac{144}{160} \frac{160}{168}$

Exam. $\frac{144}{168}$, is $\frac{24}{28}$, here divided by

191 192 192 192

3, make 48, and 192 divided by 4, gives 48, which was to be proved. Or, you may prove your work by abbreviation of fractions; but it is attended with much difficulty, where 4 or more fractions are reduced to a common denominator.

Now this reduction of fractions is of little use otherwise than to prepare a fraction to be either added, subtracted, multiplied, or divided.

As if the $\frac{1}{2}$ and $\frac{1}{3}$ and $\frac{1}{7}$, were to be added together, reduce them first into a common denominator, as in the last rule, it makes $\frac{144}{168}$ and $\frac{160}{168}$ and $\frac{168}{168}$. Add all the new numerators together, make 472, which divided by 192, the common denominator, makes $2 \frac{168}{192}$, as in the following example.

Addition of $\left. \begin{array}{l} 144 \\ \text{VulgarFrac-} \\ \text{tions.} \end{array} \right\} \begin{array}{l} 160 \\ 168 \end{array}$

192)472
 2) 88

$2 \frac{1}{2}$ $2 \frac{1}{2}$ $2 \frac{1}{2}$
 Facit $2 \frac{168}{192}$, or $2 \frac{1}{2}$

And if the $\frac{1}{2}$ and $\frac{1}{3}$ and $\frac{1}{7}$ were to be added together in decimals, reduce them first into decimal fractions, according to the third rule, and the operation stands, viz.

0000

Addition of $\left. \begin{array}{l} 175 \\ 8333 \\ \text{Decimals.} \end{array} \right\} \begin{array}{l} 875 \\ \text{rest.} \end{array}$ Say, 4 in 30 is 7 times, and 4 in 20 is 5 times; and so for the

$1 \frac{1}{2}$ $1 \frac{1}{2}$ $1 \frac{1}{2}$

Facit 2,4583, or, $2 \frac{1}{2}$

By this addition you see how much less work is made by decimals than in vulgar fractions, and how easy their value is found out according to the sixth rule.

8. To reduce the compound fractions, or fractions of a lesser name into the fractions of a greater, multiply the numerators together for a new denominator.

Reduce $\frac{1}{2}$ of a penny into the proper fraction of a pound sterling.

Say $\frac{1}{2}$ of $\frac{1}{12}$ of $\frac{1}{20}$, or $\frac{1}{2}$ of $\frac{1}{240}$, facit $\frac{1}{480}$.

9. To reduce a mixt number of a lesser name into the fractions of a greater, reduce the mixt number into an improper fraction, and work as before.

Reduce $3\frac{1}{2}$ into the proper fraction of a pound sterling.

$\frac{1}{2}$ of $\frac{1}{12}$ of $\frac{1}{20}$, or $\frac{1}{2}$ of $\frac{1}{240}$, facit $\frac{1}{480}$.

By the same rule you may reduce any sort of weight or measure.

For compound fractions, their use is chiefly to bring fractions of divers denominations to one and the same denomination.

As if the $\frac{1}{4}$ of a penny, $\frac{1}{2}$ of a shilling, and $\frac{1}{7}$ of a pound were added together.

The $\frac{1}{4}$ of a penny must be reduced into the fraction of a pound, and the $\frac{1}{2}$ of a shilling must be reduced into the fraction of a pound, thus:

Then the fractions to be added
 $\left. \begin{array}{l} \frac{1}{4} \text{ of } \frac{1}{12} \text{ fac. } \frac{1}{480} \\ \frac{1}{2} \text{ of } \frac{1}{20} \text{ fac. } \frac{1}{240} \end{array} \right\}$
 are $\frac{1}{480}$ and $\frac{1}{240}$ and $\frac{1}{7}$, which reduce
 to a common denominator, and add
 them together, either by decimals
 or vulgar fractions.

Addition of Fractions.

1. If the fractions to be added have one common denominator, add all the numerators together, and divide the product by the common denominator.

Example. Add $\left\{ \frac{7}{8}, \frac{5}{8}, \frac{1}{8} \right\}$ of a pound together.

$$\begin{array}{r} 12 \overline{) 20} \\ \text{Facit } 1 \frac{8}{12} \end{array}$$

2. If the fractions to be added be of different denominators, reduce them to a common denominator, and proceed as before.

Example. Add $\frac{7}{8}$ and $\frac{1}{4}$ and $\frac{3}{8}$, together.

$$\begin{array}{r} 8 \overline{) 28} \quad 8 \overline{) 24} \quad 8 \overline{) 24} \\ 4 \quad 3 \quad 3 \\ \hline 32 \quad 24 \quad 24 \\ 3 \quad 84 \quad 96 \\ \hline 96 \quad 96 \quad 220 \\ \hline \text{Facit } 2 \frac{11}{8} \end{array}$$

To add $\frac{7}{8}$ and $\frac{1}{4}$ and $\frac{3}{8}$ of a pound in decimals, reduce them into decimal fractions, and add them up as in whole numbers, keeping the place of units just under each other.

$$\begin{array}{r} \text{Add } \left\{ \frac{7}{8}, \frac{1}{4}, \frac{3}{8} \right\} \\ \hline 2,2916 \quad \text{Facit } 2-5-10 \end{array}$$

Subtraction of Fractions.

1. TO subtract fractions of different denominators, reduce them to a common denominator, and subtract the lesser fraction from the greater.

Example. From $\frac{1}{4}$, take $\frac{3}{8}$, from $\frac{1}{4}$.

$$\begin{array}{r} 1 \overline{) 2} \\ 9 \quad 8 \quad 10 \quad 11 \\ \hline \text{Facit } \frac{1}{8} \end{array}$$

2. If you have a mixt number (or integer and fraction) and the fraction to be subtracted be greater than the fraction from which you are to subtract,

Borrow an integer from the mixt number, and work as in the subtraction of whole numbers.

Example.

From $1\frac{1}{2}$ take $\frac{2}{3}$

Here I cannot take $\frac{2}{3}$

$2\frac{1}{2}$ out of $\frac{1}{2}$, therefore, I bor-

row an integer, viz. 12,

$8\frac{1}{2}$

and say 9 out of 12, rests

3, to which add $\frac{1}{2}$ rest $\frac{7}{2}$

and carry 1 to 2, is 3. out of 11. rest 8; and facit $8\frac{1}{2}$.

From $25\frac{1}{2}$ from 42

Take $19\frac{7}{8}$, take $16\frac{1}{2}$

$15\frac{1}{8}$ facit $25\frac{3}{8}$

Subtraction of decimals is the same as in whole numbers, keeping the place of units just under each other of the integers, and primes under primes of the decimals, &c.

l.

From $\frac{7}{8}$, 875

Take $\frac{1}{4}$, 25

—

s. d.

Rest, 125 or 2—6

l.

the $\frac{7}{8}$ is— 17—6

$\frac{1}{4}$ is— 15—0

—

Rest 2—6

Equal to the decimal, , 125

Multiplication of Fractions.

1. **T**O multiply proper fractions, multiply the numerators together for a new numerator, and the denominators multiply together for a denominator.

Example. Multiply $\frac{1}{2}$ by $\frac{3}{4}$ facit $\frac{3}{8}$.

2. If a mixt number and a fraction are to be multiplied together, reduce the mixt number into an improper fraction, and work as in the last.

Example. Multiply $1\frac{1}{2}$ by $\frac{2}{3}$ by $\frac{3}{4}$.

$$\frac{3}{4} \text{ by } \frac{2}{3} \text{ facit } \frac{105}{100}$$

Example. Multiply $1\frac{1}{2}$ by $2\frac{1}{2}$.

$$\frac{3}{4} \text{ by } \frac{5}{2} \text{ facit } \frac{15}{2}$$

$$l. \quad s. \quad d. \\ 32-1-8$$

3. To multiply a mixed number by an integer, make the integer an improper fraction, by placing [1] under it, and reduce your mixed number into an improper fraction, and work as in the first rule.

Example. Multiply $7\frac{1}{2}$ by 4.

$$6 \text{ by } \frac{1}{2}, \text{ facit } 3\frac{1}{2}$$

4. Multiplication of decimals is the same as in whole numbers, saving as many decimal parts as arise in the multiplier and multiplier, so many must be cut off from the product, which, if it have not so many places, the defect must be supplied with figures towards the left hand.

Multiply, 1005
by, 631

$$\begin{array}{r} 1005 \\ 3015 \\ \hline \end{array}$$

Facit, 0031 155

$$\begin{array}{r} 11,83 \\ 2,87 \\ \hline \end{array}$$

$$\begin{array}{r} 8281 \\ 9464 \\ 2366 \\ \hline \end{array}$$

33, 9521

Division of Fractions.

1. To divide single fractions: there is no need to reduce the fractions to a common denominator, but multiply the numerator of a divisor, by the denominator of the dividend. And contrary for the terms of the quotient, thus;

Example. Divide $\frac{1}{2}$ by $\frac{1}{3}$

$$\frac{1}{2} \div \left(\frac{1}{3}\right), \text{ or } 1\frac{1}{2}$$

2. If it happens that the fraction of the divisor be greater than the fraction of the dividend, the facit of such division is a fraction.

Example. Divide $\frac{2}{3}$ by $\frac{7}{8}$

$$\begin{array}{r} 7 \overline{) \frac{2}{3}} \quad \frac{2}{3} \left(\frac{24}{21} \right) \\ \underline{21} \\ 3 \end{array}$$

Facit $\frac{1}{2}$

To divide an integer by a fraction, multiply the integer into the denominator, and divide by the numerator.

Example. Divide 8 by $\frac{5}{6}$

$$\begin{array}{r} \frac{5}{6} \overline{) 8} \quad \frac{8}{6} \left(\frac{48}{45} \right) \\ \underline{45} \\ 3 \end{array}$$

Facit $9\frac{1}{2}$

4. To divide a fraction by an integer, place the numbers as follows, and work as by the first rule.

Example. Divide $\frac{2}{3}$ by 3

$$\begin{array}{r} 3 \overline{) \frac{2}{3}} \quad \frac{2}{3} \left(\frac{2}{9} \right) \\ \underline{2} \\ 0 \end{array}$$

Facit $\frac{2}{9}$

5. To divide a mixt number by an integer, reduce the mixt number into an improper fraction, whose denominator multiply by the integer, for your divisor.

Example. Divide $3\frac{1}{2}$ by 2

$$\begin{array}{r} \frac{7}{2} \overline{) \frac{27}{2}} \quad \frac{27}{2} \left(\frac{27}{14} \right) \text{ or } 1\frac{13}{14} \text{ facit} \end{array}$$

6. To divide a mixt number by a fraction, reduce the mixt number into an improper fraction, and work as before.

Example. Divide $3\frac{1}{2}$ by $3\frac{1}{4}$

$$\begin{array}{r} \frac{7}{2} \overline{) \frac{13}{4}} \quad \frac{13}{8} \text{ facit, or } 1\frac{5}{8} \end{array}$$

7. To divide an integer by a mixt number, reduce the
R

mixt number and integer into improper fractions, and proceed as before.

Example. Divide 5 by $3\frac{1}{2}$

$$\begin{array}{r} \hline 3^{\frac{1}{2}}) 5 \text{ (} 1\frac{1}{2} \text{ facit} \\ \text{Or, } 1\frac{1}{2} \text{ facit} \end{array}$$

8. To divide a mixt number by a mixt number, reduce them into improper fractions, and divide as before.

Example. Divide $3\frac{1}{2}$ by $2\frac{1}{2}$

$$\begin{array}{r} \hline \text{Or, } 1^{\frac{1}{2}} \text{ by } 1^{\frac{1}{2}} \\ \text{Facit } 1\frac{1}{2} \text{ or } 1\frac{1}{2} \end{array}$$

Division of decimals is the same as in whole number, till the work be done, and then use the converse of the rule for multiplication, viz. so many decimals as are in the dividend, so many there must be in the divisor and quotient; and if there be not so many, the quotient must be supplied with cyphers towards the left hand.

Example. Divide 33.9521 by 2.87

$$\begin{array}{r} \hline 2.87) 33.9521 \text{ by } 2.87 \\ \underline{2382} \\ \text{Facit } 11.83 861 \\ \hline 00 \end{array}$$

See the converse in multiplication of decimals.

The Rule of Three in Fractions.

RULE: You must multiply your second and third numbers together, and divide by your first.

Observing the same method as in whole numbers, viz. That the first and third numbers be of one name or denomination.

Example. If $3\frac{1}{2}$ buy $\frac{1}{2}$ of tobacco, What shall $96\frac{1}{2}$ buy?

$$\begin{array}{r} 1. \quad 1b. \quad 1. \\ 210 \overline{) 210} - 954 \\ \hline 187 \\ 766 \\ 187 \end{array}$$

$$\begin{array}{r} \text{Divide } \frac{766}{7} \text{ by } \frac{7}{766} \\ \underline{7} \\ 84 \\ \underline{2880} \\ 3360 \end{array}$$

84) 367680

316
 648
 600
 —
 12

The Mensuration of plain Superficies (or flat measure) such as board, glass, wainscot, painting, and the like.

NOTE 1. **T**HAT in superficial measure 12 times 12 inches, being 144 inches, are the number of inches contained in a square foot of superficial measure.

2. That to square any number, is to multiply it by itself, as if you would know how many square feet is contained in a yard square, multiply 3, the feet in one yard, by 3, the product is 9, and so many feet make a yard square.

Example. How many square inches are there in a yard square?

MENSURATION.

107

Feet
11, 5 High
90 Above

9) 1035 (115 Yards for answer.

13

45

Note, This way it is done much truer and with fewer figures, and no charge to the memory.

Example. A glazier hath done a pane of glass of 5 feet 73 high, and 5 feet 54 broad, at 6d. the foot square.

Note, The glazier's foot divided
into 10 parts, and every part into
10 parts more.

5, 73
5, 54
2292
2865
2865

Facit, feet, 31, 7442

A general rule to measure round or square pillars.

Multiply the length by the circumference of round pillars.

And for square pillars, add the sides or breadth together, and multiply the total by the length.

Example 5. A painter hath done a pillar of 6 feet 3 inches circumference, and 14 feet 9 inches long, I demand the square yards of painting?

The common and best way to do this, is by cross multiplication, thus,

R 3

Feet. Inch.

14—9

6—3

3—8—3

88—6

Facit, feet 92—2—3 answer.

Or, yards 10—2—2—3

Multiplying 9 by 3, gives 2 feet 3. put down the 3, and carry 2; then 3 times 14 is 42, and 2 is 44, which is 3 feet 8, which put down as you see.

Then 6 times 9 is 54, which is 4 feet 6, put 6 under the 8 (as being 12ths of a foot as the 8 is) then 6 times 14 is 84, and 4 is 88. So the sum of the 2 lines is 92 feet 2¹/₂. Or the feet divided by 9, is 10 yards 2 foot, 2 primes (or 12ths of a foot) and 3 seconds, or 12ths of a 12th.

The same is done decimally thus :

14. 75 Feet

6. 35

7375

2950

8850

9)92.1875

Or yards 10. 2,1875 Feet

For regular polygons, add all the sides together, and multiply the total by half the nearest distance from the center to one of the sides.

For cones, multiply half the length by the circumference.

For pyramids, add all the breadth at the base together, and multiply half the length by the total.

For globes, multiply the area of the greatest circle by 4, it gives the content.

Measurement of Solids.

Solids, such as stone, timber, &c. are measured by the cubic or solid foot; now a cube is a figure like a dye of six equal sides, and a cubic foot contains 12 inches square on every side.

THE rule is, multiply the length by the breadth, and that product multiply by the depth, which divide by 1728, the cubic inches in a foot solid.

Example.

A piece of timber 16 feet long, 14 inches broad, and 9 inches deep, how many solid feet doth it contain?

12	16
12	12
144	192
12	14
1728	768
	192
	2688
	9
1728)	24192
	6912
14	14
COO	

Example.

A stone 7 feet 3 inches long, 4 feet 5 inches broad, and 2 feet 3 inches deep, how many solid feet?

$$\begin{array}{r} 7-3 \\ 12 \end{array} \quad \begin{array}{r} 4-5 \\ 12 \end{array} \quad \begin{array}{r} 2-3 \\ 12 \end{array}$$

$$\begin{array}{r} 87 \text{ length} \\ 53 \text{ breadth} \end{array} \quad \begin{array}{r} 53 \\ 27 \end{array}$$

261

1728)

124497

435

3537

4611

27 deep Facit 72 solid feet

81

rests—

32277

1728

9222

Or 6' 9"

Facit 124497 cubic inches

But the way most used, and which is shorter and most like an artist, is this.

Inch Feet

4 5 broad

2 3 deep

1 1 3

8 10 0

$$\begin{array}{r} 9 \ 11 \ 3 \\ 7 \ 3 \ \text{long} \end{array}$$

$$\begin{array}{r} 2 \ 5 \ 9 \ 9 \\ 69 \ 6 \ 9 \end{array}$$

Feet 72 0 6 9

Only carrying the 12's, both in your multiplication and addition.

To find how many inches in length make a solid foot of timber, multiply the number of inches square in itself

MEN'S U R A T I O N.

200

for divider, and make 1718, the cubical inches of a foot, your dividend.

Example.

A piece of timber 18 inches square, what length will it require to make a foot solid?

18
18

144
18

Facit 5 inches 108
324) 1728

Example.

How many inches in length will make a foot at 12 inches square?

12
12

144) 1728
288

Facit 12 inches

P L A N K M E A S U R E.

A Table shewing how many feet make a load of plank of any thickness.

Inch thick	Feet to the load	Inch thick	Feet to the load
1	600	5	120
1½	400	5½	109,0912
2	300	6	100
2½	240	6½	92,076
3	200	7	85,714
3½	171,428	7½	80
4	150	8	75
4½	133,31	8½	70,588

The way to make this table, or to know how many feet of plank make a load of any thickness:

Rule. Say, if 12 inch thick, require 50 feet to make a load, what will 4 inch thick require? This by the reverse rule of three gives 150, as you see by the operation.

$$\begin{array}{r} 12. \quad 50 \quad 45. \\ 12 \end{array}$$

4)600(150 feet for answer.

So that if you divide 600 by any thickness of plank, the quotient sheweth how many feet thereof make a load.

2. Example. If it were required to know how many load are in 5762 feet of plank 5 inches thick.

By the table 120 feet make a load; therefore divide 5762 by 120, and the quotient is loads.

$$120)5762(48 \frac{2}{3} \text{ or } 48 \frac{1}{5} \text{ loads.}$$

Or multiply the feet given by 144, and that product by the thickness of the plank, then divide by 1728, the inches in a solid foot, and that quote is feet, which divide by 50, the feet in a load, and you have the loads, without the table.

$$\begin{array}{r} 5762 \\ 144 \\ \hline 829728 \\ 5 \\ \hline 1728)4148640(2400 \quad 48 \frac{1}{5} \text{ load.} \\ 6926 \quad 50) \\ 1440 \end{array}$$

Note, The remainder $\frac{1448}{5}$ is equal to 56 feet, and $\frac{1}{5}$ of $\frac{1}{5}$ is equal to $\frac{1}{25}$ of the load as above.

Example 3. In 1234 feet of 4 inches plank, how many load and solid feet?

$$\begin{array}{r} 150)1234(8 \text{ load.} \\ 3) \quad 34 \quad (11 \text{ solid feet.} \end{array}$$

For the solid feet, divide the remainder by the number of 50's contained in the divisor; or by the times that the thickness of the plank is found in 12, as above.

Also, if the last example were done by the second rule, under the second example, 1234 multiplied by 144, gives 177696, and that by 4 inches thick, 710784, which divided by 1728, the quote is 411 feet, or 8 load (divided by 50) and 11 feet, as in the last rule and example.

3dly, To know how many feet of plank of any thickness make a tun. Say by the inverse rule of three, as 12 to 40, so the thickness to the answer.

$$\begin{array}{r} 12. \quad 40. \quad 4. \\ 12 \end{array}$$

$$4)480(120 \text{ feet in the tun.}$$

And so may you make a table of the feet of any thickness in a tun (as is before shewed for the load) by only dividing the 480, by the thickness of the plank.

So in thickness	Feet make a tun
of 1 inch —	480
2 —	240
3 —	160
4 —	120
5 —	96
6 —	80, &c.

A Short and Easy Method of BOOK-KEEPING.

INSTRUCTIONS.

Quest. **W**HAT is the first thing I must do who design to keep my book of accounts after this method?

Ans.w. You must make an inventory; an example of which is at the end of these instructions.

Q. How must I post the first part of this inventory?

A. You must post it in your ledger, viz. merchandize, to the debit of that account.

Call. to the debit of your cash book.

George Mason's debt, to the debit of his account.

Germain Bell's debt, to his debit also,

And for the whole sum (viz. 730*l.*) you must give counterpart in credit of stock.

Q. How must I post the other part of this inventory?

A. To the credit of Thomas Richards, the sum you owe him.

To the credit of John Fair, the sum you owe him.

And for the whole sum (viz. 100*l.*) you must debit stock. See the several accounts, Fol. 1. 2.

Q. I see by the first page of the day-book, that it contains entries of goods sold to sundry persons: how must these be posted?

A. To the debit of Richard Hughs, what sold him.

To the debit of Anthony Coule, the like.

To the debit of James Gray and company, the like.

To the debit of Richard Hunt, the like. See their accounts, Fol. 3. ledger.

And counterpart must be given for the whole sum of this page (viz. 16*l.* 10*s.* 10*d.*) on credit of merchandize in the said ledger. See account of merchandize, Fol. 1. ledger.

And the like must be done for the pages 2, 3, 4, 5 and 6 of the said day-book.

Note, That the ready money taken for goods sold is posted each month to the debit of your cash-book.

Q. How must I enter the monies I receive (of debtors in my ledger?)

A. On your debit side of your cash-book. See that book.

Q. How must I post the sums received into my ledger?

A. To the credits of the persons, of whom received. See the accounts of

Richard Hughes	—	—	Fol. 3
Anthony Coule	—	—	Fol. 3
John Gray and company	—	—	Fol. 3
Thomas Wilson	—	—	Fol. 3
Henry Trap	—	—	Fol. 4

Q. How must I post (into my ledger) the total receipts of the month of August (viz. 57*l.* 3*s.* and 10*d.*)

A. You must post that total to the debit of your cash, in your ledger, writing,

To sundries. Received per cash-book. See the account of cash, in the ledger, Fol. 1.

Do the like for September's and October's receipts.

Q. How must I enter the monies I pay to those I owe to, and who have credit in my ledger?

A. On the credit side of your cash-book. See the cash-book.

Q. How must I post those sums paid?

A. To the debits of the persons to whom paid. See the accounts of Thomas Richards, Fol. 2. and John Fair, Fol. 2. in your ledger.

Q. How must I post (into my ledger) the total payments of the month of August (viz. 30*l.*)

A. You must post it to the credit of your cash, in your ledger, writing,

By sundries paid per cash-book. See the account of cash in your ledger, Fol. 1.

Q. I understand by these directions, how to state and

post my books, how must I proceed in balancing my ledger?

A. Value your merchandise remaining unsold, and enter the sum of their value on credit of the account of merchandise, in your ledger. See the account of merchandise, Fol. 1.

And give the counterpart in debit of the account of balance in the said ledger. See the debit of balance, Fol. 4.

Which done, subtract the debit side of the said account of merchandise for its credit, and place the remainder (viz. 97*l.* 10*s.*) on the debit side of it. See the account, Fol. 1.

And give counterpart on credit of profit and loss in the said ledger. See account of profit and loss, Fol. 4.

Then add up debtor and creditor of the account of cash in the said ledger, and subtract the credit from the debit, and place the cash remaining (viz. 297*l.* 7*s.* 1*d.*) on credit of the said account of cash. See the account, Fol. 1. and give counterpart in debit of the account of balance. See said account of balance, Fol. 4.

Q. How must I do with the account of expences?

A. Write on its credit side (the 32*l.*) by profit and loss, and give counterpart in debit of the account of profit and loss. See both the accounts, Fol. 2, 4.

Q. How must I do with the account of George Mason, who, I find by his account, owes me 10*l.*

A. You must write on the credit of his account, by balance now owing to me 10*l.*

And give counterpart on debit of balance. See both the accounts, Fol. 2, 4.

Do in the same manner by the accounts of

Germain Bell — — — — Fol. 2.

Richard Hughs — — — — Fol. 3.

John Gray and company — — Fol. 3.

And Thomas Wilson — — — — Fol. 3.

See their particular accounts in your ledger.

Q. How must I do with the account of Thomas Richards, to whom I find I owe 20*l.*

A. You must write on the debit of his account; to balance now due to him 20/.

And give counterpart on credit of balance. See both the accounts, Fol. 2, 4.

Do the like with the account of John Fair. See his account, Fol. 2.

Q. How must I do to balance or close the accounts of stock, profit and loss?

A. Subtract the debit, or profit and loss, from its credit, and set the remainder (viz. 6*s.* 10*s.*) being your clear gains during the time of this trade, on the debit of profit and loss. See the account, Fol. 4.

And give counterpart in credit of stock. See accounts of stock, Fol. 4.

Q. How must I do to balance the accounts of stock?

A. Subtract its debit from its credit, and set the remainder (viz. 68*s.* 10*s.* being your present neat stock) on the debit of stock. See the account, Fol. 1.

And give counterpart in credit of balance. See account of balance, Fol. 4.

This done, your ledger is balanced, and the account of balance, Fol. 4.

This done, your ledger is balanced, and the account of balance (if you have preceded right) will be equal on both sides.

The I N V E N T O R Y.

London, August. 1. 1757.

I Have merchandize of sundry } L. 520—00—00
I set to the value of —

In cash or ready money — 180—00—00

Owing to me, by

Richard Mafon — 20—00—00

Germain Bell — 10—00—00

Owing by me, to

Thomas Richards L. 60—00—00

John Fair — 50—00—00

— L. 110—00—00

My net stock 620—00—00

BOOK-KEEPING.

CASH-BOOK 1.

Receipts——Debtor.

l. s. d.

August, 1757.

1	To stock by inventory	—	1	180 00 00
8	Richard Hughs, of him	—	3	4 00 00
12	Anthony Coule, ditto	—	3	3 6 06
16	John Gray and company, ditto	—	3	1 10 06
20	Thomas Wilson, ditto	—	3	4 13 00
30	Henry Trap, ditto	—	4	0 15 00
pt. 31	Merchandize since 1st of August	—	4	42 18 10

L. 57—03—10 Received

237 03 10

September, 1757.

	Last balance.	3	207 03 10
11	Richard Hughs, of him	3	8 15 11
—	Anthony Coule, ditto	2	3 00 00
15	George Mason, ditto	2	10 00 00
20	Germain Bell, ditto	4	5 00 00
24	Henry Trap, ditto	3	2 06 00
30	John Gray and company, ditto	—	2 00 03
—	Merchandize since 1st of September	—	38 06 06

L. 69—18—08 Received

276 12 06

BOOK-KEEPING.

259

I.

Payments—Creditor.

l. s. d.

August, 1757.

23	Thomas Richards, to him	2	20	00	00
31	John Fair, ditto	2	10	00	00
			—	—	—
			30	00	00

Resing per balance

207 03 00

237 03 10

September, 1757.

22	John Fair, to him	2	5	00	00
28	Thomas Richards, ditto	2	10	00	00
			—	—	—
	Paid this month—		15	00	00

Resing per balance—

261 12 06

276 12 06

2.

Receipts—Debtor,

October, 1757.

Last balance—

11 To Anthony Conle, of him —

20 John Biddy, ditto —

31 John Gray and company, ditto —

pt. Merchandize since 1st of October —

L. 97—04—07 Received—

November, 1757.

1, 1.

261 1206

3 200 30

4 211 30

3 51, 33

86 1134

358 1731

BOOK-KEEPING.

211

2.

Payments—Creditor.

l. i. d.

October, 1757.

15 By Thomas Richards, to him —
 28 John Fair, ditto — — —
 31 Expences, &c. since 1st of August —

2 1000 00
 2 2000 00
 1 3200 00

Paid this month—

6200 00

Resling per balance—

296 17 01

358 17 01

November, 1757.



A

DAY-BOOK,

O R

JOURNAL.

DAY-BOOK. I.

Accompts-debtor to merchandize.

Sold.

August 1. 1757.

l. s. d.

3

Richard Hughs,

39½ ells linnen, at — s. 3—2

60501.

ditto

3

Anthony Coule,

48½ ells linnen, at — s. 2—4

61606

ditto

3

John Gray and company,

3 doz. scissers, at 4 0 — l. 0—12—0

3 doz. ditto 3. 9 — 0—11—0

6 doz. round points 1. 3 — 1—02—6

6 doz. middling 2. 8 — 0—16—0

30109

ditto

3

Richard Hughs,

3 maffs of pearl, at — l. 0—2—6

00706

Merchandize sold—

161610

BOOK-KEEPING.

213

DAY-BOOK. 2.

Accompts debtor to merchandize.

Sold.

August 17. 1757.

l. s. d.

Thomas Wilton,

12 doz. scissars	4	3	—	l.	4	12	6
6 doz. middling	4	3	—	—	1	05	6
9 doz. ditto	2	8	—	—	1	04	0
20 doz. small	1	6	—	—	1	10	0

8 13 00

ditto 20

Anthony Coule,

1 looking glass	—	—	—	l.	0	08	6
1 ditto middling	—	—	—	—	0	09	6
3 tortoise shell combs	—	—	—	—	0	06	0

1 4 00

ditto 23.

Henry Trap,

1 doz. scissars with cases	—	—	—	l.	0	09	6
1 doz. without cases	—	—	—	—	0	05	6

6 15 00

Sold.

August 27. 1757.

Richard Hughs,

3 pair scissars half barb	—	—	—	l.	0	06	0
1 doz. ditto, small set	—	—	—	—	0	05	0
2 knives at 20d.	—	—	—	—	0	03	4
1 doz. comb brushes	—	—	—	—	0	03	0
6 pen. knives, at 8d.	—	—	—	—	0	04	0
12 doz. clasp knives	—	—	—	—	1	17	0
24 doz. knives horn handed	—	—	—	—	3	00	0

5 18 04

Merchandize sold

16 10 04

DAY BOOK. 3.

Accompts debtor to merchandize.

Sold.

August 31. 1757.

1	Receipts in ready money for goods since the	{	42 18 10
	1st of August		

September 3. 1757.

4	Henry Trap,		0 12 00
	A parcel of scissars		

3	Richard Hughs,		5 2 6
	2 masses pearl, at		0 5 30

3	Richard Hughs,		
	13 ells cloth, at	5, 2 6	1 12 06

3	Anthony Coule,		
	4 masses pearl	2 6	1 0 10 0
	1½ doz. pendants	4 6	0 0 6 0
			0 16 00

4	Henry Trap,		
	12 doz. horn trumpets	2	1 1 04 0
	2 doz. comb-brushes	3	0 0 6 0
	2 doz. ditto	2	0 0 4 0
			1 14 00
	Merchandize sold		47 18 04

Day-Book. 4.

Accompts debtor to merchandize.

Sold.

l. s d.

September 30. 1757.

John Biddy,

3 masses Ven. pearl, — l. 1—00—0
2 doz. scissars — — — 0—09—0
3 doz. fine combs — — — 1—09—0

2 18 00

ditto

John Gray and company,

1 piece white gauze qt. 24 ells — —
1 piece — ditto — 22 — —
1 piece — ditto — 20 — —
1 piece — ditto — 18 — —
1 piece yellow ditto — 20 — —
1 piece black ditto — 19 — —

Ells — 123 at 21d.

10 15 03

ditto

Receipts in ready money for goods since
the 1st of September — — —

38 6 6

October 2. 1757.

Thomas Wilson,

1 doz scissars with cases, l. 0—12—0
4 masses pearl, at 2s. 6d. — 0—08—0
9 masses, ditto, — — — 3—17—4

4 17 4

Merchandize sold —

56 17 08

BOOK-KEEPING.

Day-Book. 5.

Accounts debtor to merchandize.

Sold.

l. r. d.

October 29, 1757.

Thomas Willson,

2 pieces tabby, qt. 61 } l. 25—18—6

ells—8s. 6d.

1 piece ditto, qt. 28 } 11—18—0

ells—8s. 6d.

37 16 6

ditto 31

Receipts in ready money for goods since the

1st of October

86 11 4

Merchandize sold

124 07 10



T H E

L E D G E R.

A L P H A B E T.

B	Bell, German	2	M	Merchandize	1
	Biddy, John	4		Mason, George	2
	Balance	4			
C	Conle, Anthony	3	P	Profit and los	4
	Cash	1			
E	Expen. and abatem.	1	R	Rept. and paymt. cash.	1
				Richards, Thomas	2
F	Fair, John	2	S	Stock	1
G	Gray, John and comp.	3	T	Trap, Henry	4
H	Hugh, Richard	3	W	Wilson, Thomas	3

BOOK-KEEPING.

LEDGER. I.

LEDGER. I.				
1757	Aug. 2	Stock——Debtor.		1106.00
		To fundry to whom I owe —		4684.100
Oct.	31	To balance N. —		795.1100
1757	Aug. 1	Merchandize, Debtor.		1520.0000
		To Stock per inventory — —		4 97.1000
Oct.	31	To P. and L. carried thither —		617.1007
1757	Aug. 1	Receipts or Cash, Debtor.		180.0000
		To Stock, money per inventory —		57.0310
	31	To fundries per book, page 1 —		69.1808
Sept.	30	To fundries — — — 1 —		97.0407
Oct.	31	To fundries — — — 1 —		404.0731
1757	Oct. 3	Expences, &c. Debtor		31.1500
		To payment hereon since 1 Aug.		

BOOK-KEEPING.

259

LEDGER. I.

		l. r. d.	
Stock——Creditor.			
1757			
Aug 13	By fundry per inventory —	73c	00 00
Oct 31	By pro. and loss, gained in 3 m.n.	4 65	61 00
		795	11 00
Merchandise, Creditor.			
1757			
Aug 10	By fundries fld, day book 1 —	16 10	10
27	By fundries — — — 2 —	16 10	04
Sept 16	By fundries — — — 3 —	47 18	04
Oct 20	By fundries — — — 4 —	56 17	01
31	By fundries — — — 5 —	124 07	10
		262 14	05
	By bal. value of remains —	4354 15	07
		617 10	03
Payments or Cash, Creditor.			
1757			
Aug 11	By fundries per book — 1 —	30 00	00
Sept 30	By fundries——page — 1 —	15 00	00
Oct 31	By fundries——page — 1 —	62 00	00
		107 00	00
	By balance, rest in cash —	4297 07	01
		40407 01	
Expences, &c. Creditor.			
1757			
Oct 31	By profit and loss carried there	4 31 19	01
T 2			

BOOK-KEEPING.
LEDGER. 2.

l. s. d.

1757

George Maſon, Debtor.

Aug

1 To ſtock, now owing me —

1 20 00 00

1757

Germain Bell, Debter.

Aug.

1 To ſtock now due to me —

1 10 00 00

1757

Thomas Richards, Debtor.

Aug 23

To payment, to him —

1 20 00 00

Sept. 28

To ditto — —

1 10 00 00

Oct 25

To ditto — —

1 10 00 00

To balance now due to him —

40 00 00

20 00 00
— — —
60 00 00

1757

John Fair, Debtor.

Aug 31

To payment to him —

1 10 00 00

Sept. 23

To ditto — —

1 5 00 00

Oct 26

To ditto — —

1 20 00 00

To balance now owing him —

4 35 00 00

15 00 00
— — —
50 00 00

BOOK-KEEPING.

241

LEDGER. 2.

		L.	
		/.	
1757	George Malon, Creditor.		
Sept 15	By receipt of him — —	1	100 00
Oct. 31	By balance now owing me —	4	100 00
			200 00
1757	Germain Bell, Creditor.		
Sept 20	By receipt of him — —	1	50 00
Oct 31	By balance, now owing me —	4	50 00
			100 00
1757	Thomas Richards, Creditor.		
Aug. 1	By flock now owing him —	1	6000 00
1757	John Fair, Creditor.		
Aug. 1	By flock now due to him —	1	5000 00

LEDGER. 3.

l. s. d.

1757

Richard Hughs, Debtor.

Aug.

1

To merchandize sold him —

1 6 3 1

10

To ditto — — —

1 0 7 6

27

To ditto, a parcel — —

1 5 18 4

Sept

6

To ditto, 2 masses of pearl —

1 0 5 00

11

To ditto, 13 ells of cloth —

1 1 12 6

14 8 5

1757

Anthony Coule, Debtor.

Aug

5

To merchandize sold him —

1 6 16 6

20

To ditto, a parcel — —

1 1 4 00

Sept. 15

To ditto, a parcel — — —

1 0 16 00

8 16 6

1757

John Gray and comp. Debtor.

Aug.

5

To merchandize, a parcel —

1 3 1 9

Sept. 30

To ditto, a parcel — — —

1 10 15 3

13 17 00

1757

Thomas Wilson, Debtor.

Aug.

17

To merchandize, a parcel —

1 8 3 00

Oct.

2

To ditto, a parcel — —

1 4 7 4

29

To ditto, a parcel — — —

1 37 16 6

5 1 6 10

LEDGER. 3.

l. s. d.

Richard Hughes, Creditor.

1757				
Aug 18	By receipt of him	—	—	—
Sept 11	By ditto	—	—	—
		1	4	00 00
				8 15 11

By balance now owing me —

12	15	11
1	12	6
4		
14	8	5

Anthony Coule, Creditor.

1757				
Aug 12	By receipt of him	—	—	—
Sept 11	By ditto	—	—	—
Oct. 11	By ditto	—	—	—
		1	3	6 6
				3 00 00
		1	2	00 00

Balance —

10	00
16	6

John Gray and comp. Creditor.

1757				
Aug. 16	By receipt of them	—	—	—
Sept. 30	By ditto	—	—	—
Oct. 31	By ditto	—	—	—
		1	1	00 6
				2 00 3
				5 15 3

By balance now owing me —

9	600
4	11 00
13	17 00

Thomas Wilson, Creditor.

1757				
Aug 20	By receipt of him	—	—	—
Oct. 31	By balance now owing me	—	—	—
		1	4	13 00
				46 13 10
		4		
				51 06 10

BOOK-KEEPING.

229

LEDGER. 4.

l. s. d.

Henry Trap Creditor.

1757			
Aug 30	By receipt of him	—	—
		1	0 15 00
Sept. 24	By ditto in full	—	—
		1	2 06 00
			<u>3 01 00</u>

John Biddy, Creditor.

1757			
Oct. 20	By receipt in full	—	—
		1	2 18 00

Profit and loss, Creditor.

1757			
Oct. 31	By merch. to close that account	1	97 10 00

Balance, Creditor.

1757			
Oct. 31	By Thos. Richards, I owe him	2	20 00 00
	By John Fair, ditto	2	15 00 00
			<u>35 00 00</u>

By Stock, for its neat—

685 11 00
<u>720 11 00</u>

DIRECTI O N S.

Quest **H**AVING taught me how to state, post, and balance my books; what method must I use at the going out of these books into others?

Ans. From the balance of these books (see ledger, fol. 4.) you must draw out another inventory, as follows:

THE INVENTORY.

London, October 31. 1757

I Have in merchandize of sundry } L. 354 16 07
serts to the value of

In cash, or ready money ——— 297 07 01

Owing to me, by

George Mason	— — — — —	L. 10 00 00
Germain Bell	— — — — —	5 00 00
Richard Hughs	— — — — —	1 12 06
John Gray and company	— — — — —	4 11 00
Thomas Wilson	— — — — —	46 13 10
Anthony Coule	— — — — —	00 10 00

720 11 00

Owing by me, to

Thomas Richards L. 20 00 00
John Fair — — 15 00 00

L. 35 00 00
My neat stock 685 11 00

And post it into your new ledger, as by the directions given for the posting your other inventory.

Q In the cash book on debtor side (for instance, in the month of August) are figures just before the money line, as 1 before 180/, and 3 before 4/, &c. I desire to know what those figures shew.

A. The figure 1 (before 180/ in the first line), shews the folio of the ledger, on which the account of stock stands. The figure 3 following Richard Hughs, in the next line, shews the folio of the ledger, whereon the account of Richard Hughs stands.

The like is to be understood of the figure 3 following Anthony Coule: the 3 following John Gray and company.

ny: The 3 following Thomas Wilson, and the 4 following Henry Trap, on debtor side of the said cash-book for the month of August, and of those on debtor side of the said book for the months of September and October.

Q. What do the figures on the creditor side of the said cash-book) which come just before the money lines, shew? For instance, in the month of August on creditor side, of the figure 2 following Thomas Richards just before the 20*l*. and the 2 following John Fair, just before 10*l*

A. The figure 2 following Thomas Richards, shews that his account stands in ledger, folio 2. And the 2 following John Fair, shews that his account stands also in the said ledger, folio 2.

The like is to be understood of the figures 2, 2 on creditor side of the cash-book for September.

And of the figures 2, 2, 2 on creditor side of the cash-book for October.

Q. What does the L. 57 : 3 : 10, at the foot of the debtor side of the cash book for the month of August, shew?

A. It shews the total sum received during the month of August, and is produced by subtracting the 180*l*. in the first line from L. 237 : 3 : 10, on the debtor side of that account.

The like is to be understood of the L. 69 : 18 : 8, at the foot of September, and of the L. 97 : 8 : 7, at the foot of October.

And as those sums shew the total receipt during each month, so the sum 30*l*. on credit side of the cash book for August, the sum of 15*l*. for September, and the 62*l*. for October, shew the total payment during each of those months.

Q. How is the balance (or rest of money) in cash found?

A. You must subtract the 3*l*. (on credit of August's cash-book) from the L. 237 : 3 : 10, on the debit side, and the remainder being L. 207 : 3 : 10, the balance, or rest of money, in cash, which placed under the 30*l*. paid, and added to it, makes a just balance with the debtor side. See the cash-book for the month of August.

You are to do in the like manner to find the balance, or rests of cash for the months of September and October. See the cash-book for these months.

Q What does the figure 3 against Richard Hughes (in the day book) and the 3 against Anthony Coule, and the other figures in the margin of the day-book, shew?

A. They shew the folios of the ledger whereon the accounts of Richard Hughes, Anthony Coule, and the other accounts stand.

And also shew that those persons or accounts are debtors; as the figure 1 under the small line of the margin, and at the foot of each page of the day-book, just against the words merchandize sold shews that the account of merchandize stands in the ledger, on folio 1, and is creditor.

Q. What do the figures in the ledger coming just before the money lines on debtor side, shew?

A. As the words of each line on the debtor side of the said ledger, immediately following the word to, shew what accounts or persons are to be credited, or counterparted, so those figures shew on what folios in the ledger those accounts or persons are to be found.

Q. What do the figures coming just before the money lines on the creditor side of the ledger shew?

A. As the words in each line on creditor side of the said ledger immediately following the word by, shew what accounts or persons are debited or counterparted, so these figures shew on what folios in the ledger those accounts or persons are to be found.

Q. How must I enter the goods I buy?

A. You must enter them in a bought book; as for instance.

Merchandize debtor to persons.

Bought

Of (suppose) Richard Thomas, viz.

46 ells linen, at 3s. per ell L. 6—18—0

32 ells ditto, at 4s. per ell 10—08—0

L. 17—6—0

This article (and others of the like nature) must be posted in your ledger, to the credit of the account of the persons of whom bought) here Richard Thomas: and the total of each page in the bought book, must be posted in the said ledger to the debit of account of merchandize.

2. I have been told that a good method of book-keeping will shew the owner of the books, or others concerned, the following necessary (and many other) particulars, viz.

Concerning merchandize.

Nº 1. What goods (during the whole, or any time of the account) have been bought, brought into charge, when, of whom, and at what prices.

2. What goods (as above) have been sold, issued out of the charge, when, to whom, and at what price.

3. The whole quantity bought and sold, and the profit or loss, arising on these so disposed of.

Concerning cash or money.

4. What sums of money have been received (as above) from whom, and on whose account. Also whether in part or in full.

5. What sum total has been received and paid (during the whole, or during any time, as above, and consequently the sum resting in cash.

Concerning persons with whom I deal.

6. For what sums they stand indebted, from what dates, and for what

7. For what sums I stand indebted to them, from what dates, and for what.

8. Whether any balance or remainder be due from them to me, or from me to them, and what sum.

Concerning my expences.

9. What expence I have been at (during the time of the account, or any part of it) and such expence considered and allowed; then what neat gain or loss has attended.

Concerning my stock.

10. What stock I began with, and what my present stock is, and what particulars composed each.

Now I desire you to shew me how this method will answer all these particulars.

A. Concerning merchandize, your bought book will shew you the particular demands of numb. 1

And your day-book those in numb. 2.

The debtor side of account of merchandize in your ledger will shew the whole quantity bought, and its creditor side the whole quantity sold, and the same account shews you also the profit and loss arising on those you have disposed of See the account of merchandize in ledger, folio 1. thus the demands number 3 are shewn.

Concerning cash or money, the debtor side of your cash-book answers the demands in number 4 and the creditor side of the said book shews the demands in number 5, and consequently those in number 6. by comparing the debtor and creditor sides.

The creditor side also of the said book shews the balance (or rest that should be found) in cash.

Concerning persons with whom you deal.

The debtor sides of their accounts shew the demands of number 6, and the creditor sides those of number 7.

And consequently their accounts compared in debtor and creditor, shew the demands of number 8.

Concerning your expences.

The account of expences in your ledger shews your expences, as in number 9, and the account of profit and loss will shew the neat gain or loss.

Concerning your stock.

The account of stock in your ledger shews what you began with, and the account of balance shews your present stock, and of what particulars it consists, and answers the demands in number 10.

Account's ready cast up.

231

The Price of the Commodity by the Tun, Hundred, Pound, Ounce, Dozen, Yard, Ell, &c.

Account's ready cast up for buying or selling any Commodity by number, weight, or measure.

Numb.	1 Farthing		2 Farthings		3 Farthings	
	l.	s. d. q.	l.	s. d. q.	l.	s. d. q.
1	0	0	0	0	0	0
2	0	0	0	0	0	0
3	0	0	0	0	0	0
4	0	0	0	0	0	0
5	0	0	0	0	0	0
6	0	0	0	0	0	0
7	0	0	0	0	0	0
8	0	0	0	0	0	0
9	0	0	0	0	0	0
10	0	0	0	0	0	0
20	0	0	0	0	0	0
30	0	0	0	0	0	0
40	0	0	0	0	0	0
50	0	0	0	0	0	0
60	0	0	0	0	0	0
70	0	0	0	0	0	0
80	0	0	0	0	0	0
90	0	0	0	0	0	0
100	0	0	0	0	0	0
200	0	0	0	0	0	0
300	0	0	0	0	0	0
400	0	0	0	0	0	0
500	0	0	0	0	0	0
600	0	0	0	0	0	0
700	0	0	0	0	0	0
800	0	0	0	0	0	0
900	0	0	0	0	0	0
1000	0	0	0	0	0	0
2000	0	0	0	0	0	0
3000	0	0	0	0	0	0
4000	0	0	0	0	0	0
5000	0	0	0	0	0	0
10000	0	0	0	0	0	0

U 2

The Price of the Commodity by the Tun, Hundred,
Pound, Ounce, Dozen, Yard, Ell, &c.

Numb.	1 Penny.			2 Pence.			3 Pence.		
	l.	s.	d.	l.	s.	d.	l.	s.	d.
1	0	0	1	0	0	2	0	0	3
2	0	0	2	0	0	4	0	0	6
3	0	0	3	0	0	6	0	0	9
4	0	0	4	0	0	8	0	1	0
5	0	0	5	0	0	10	0	1	3
6	0	0	6	0	0	12	0	1	6
7	0	0	7	0	0	14	0	1	9
8	0	0	8	0	0	16	0	2	0
9	0	0	9	0	0	17	0	2	3
10	0	0	10	0	0	18	0	2	6
20	0	1	8	0	3	4	0	5	0
30	0	2	6	0	5	0	0	7	6
40	0	3	4	0	6	8	0	10	0
50	0	4	2	0	8	4	0	12	6
60	0	5	0	0	10	0	0	15	0
70	0	5	10	0	11	8	0	17	6
80	0	6	8	0	13	4	0	19	0
90	0	7	6	0	15	0	1	2	6
100	0	8	4	0	16	8	1	5	0
200	0	16	8	0	13	4	2	10	0
300	0	5	0	1	10	0	3	15	0
400	1	13	4	1	6	8	5	0	0
500	2	1	8	2	3	4	6	5	0
600	2	10	0	2	0	0	7	10	0
700	2	18	4	2	16	8	8	15	0
800	3	6	8	3	13	4	10	0	0
900	3	15	0	3	10	0	11	5	0
1000	4	3	4	4	6	8	12	10	0
2000	8	6	8	8	13	4	25	0	0
3000	12	10	0	16	0	0	37	10	0
4000	16	13	4	25	0	8	50	0	0
5000	20	16	8	41	13	4	62	10	0
10000	41	13	4	83	6	0	125	0	0

The Quantity of the Commodity to be bought or sold.

The Price of the Commodity by the Tun, Hundred, Pound, Ounce, Dozen, Yard, Ell, &c.

Numb.	4 Pence.		5 Pence.		6 Pence.	
	l.	s. d.	l.	s. d.	l.	s. d.
1	0	0	0	0	5	0
2	0	0	0	0	10	0
3	0	1	0	1	3	0
4	0	1	0	1	8	0
5	0	1	0	2	1	0
6	0	2	0	2	6	0
7	0	2	0	2	11	0
8	0	2	0	3	4	0
9	0	3	0	3	9	0
10	0	3	0	4	2	0
20	0	6	0	8	4	0
30	0	10	0	12	6	0
40	0	13	0	16	8	0
50	0	16	1	0	10	0
60	1	0	1	5	0	0
70	1	3	1	9	2	0
80	1	6	1	13	4	0
90	1	10	1	17	6	0
100	1	13	2	1	8	0
200	3	6	4	3	4	0
300	5	0	6	5	0	0
400	6	13	8	6	8	0
500	8	6	10	8	12	0
600	10	0	12	10	15	0
700	11	13	14	11	17	0
800	13	6	16	13	20	0
900	15	0	18	15	22	0
1000	16	13	20	16	8	0
2000	23	6	41	13	4	0
3000	50	0	62	10	0	0
4000	66	13	83	6	8	0
5000	83	6	104	3	4	0
10000	166	13	208	6	8	0

U 3.

The Quantity of the Commodity to be bought or sold.

The Price of the Commodity by the Tun, Hundred,
Pound, Ounce, Dozen, Yard, Ell, &c.

Numb	7 Pence		8 Pence		9 Pence	
	l.	s. d.	l.	s. d.	l.	s. d.
1	0	0 7	0	0 8	0	0 9
2	0	1 1 2	0	1 4	0	1 6
3	0	1 1 9	0	2 0	0	2 3
4	0	2 2 4	0	2 8	0	3 0
5	0	2 11	0	3 3	0	3 9
6	0	3 3 6	0	4 0	0	4 6
7	0	4 4 1	0	4 8	0	5 3
8	0	4 4 8	0	5 4	0	6 0
9	0	5 3	0	6 0	0	6 9
10	0	5 10	0	6 9	0	7 6
20	0	11 8	0	13 4	0	15 0
30	0	17 6	1	0 0	1	2 6
40	1	3 3 4	1	6 8	1	10 0
50	1	9 2 2	1	13 4	1	17 6
60	1	15 0	2	0 0	2	5 0
70	2	0 10	2	6 8	2	12 6
80	2	6 8	2	13 4	3	0 0
90	2	12 6	3	0 0	3	7 6
100	2	18 4	3	6 8	3	15 0
200	5	16 8	6	13 4	7	10 0
300	8	15 0	10	0 0	11	5 0
400	11	13 4	13	6 8	15	0 0
500	14	11 8	16	4 0	18	15 0
600	17	10 0	20	0 0	22	10 0
700	20	8 4	23	0 8	26	5 0
800	23	6 0	26	13 4	30	0 0
900	26	5 8	30	0 0	33	15 0
1000	29	3 4	33	6 8	37	10 0
2000	58	6 8	66	13 4	75	0 0
3000	80	10 0	100	0 122	10	0 0
4000	116	13 4	133	6 8	150	0 0
5000	145	16 8	166	13 4	187	10 0
10000	291	13 0	333	6 8	375	0 0

The Quantity of the Commodity to be bought or sold.

Accounts ready call up.

235

The Price of the Commodity by the Tun, Hundred, Pound, Ounce, Dozen, Yard, Ell, &c.

Numb.	10 Pence			11 Pence		
	l.	s.	d.	l.	s.	d.
1	0	0	10	0	0	11
2	0	1	1	0	1	10
3	0	2	6	0	2	9
4	0	3	4	0	3	8
5	0	4	2	0	4	7
6	0	5	0	0	5	6
7	0	5	10	0	6	5
8	0	6	8	0	7	4
9	0	7	6	0	8	3
10	0	8	4	0	9	2
20	0	16	8	0	18	4
30	1	5	0	1	7	6
40	1	13	4	1	16	8
50	2	1	8	2	5	10
60	2	10	0	2	15	0
70	2	18	4	3	4	2
80	3	6	8	3	13	4
90	3	15	0	4	2	6
100	4	3	4	4	11	8
200	8	6	8	9	3	4
300	12	10	0	13	15	0
400	16	13	4	18	6	8
500	20	16	8	22	18	4
600	25	0	0	27	10	0
700	29	3	4	32	1	8
800	33	6	8	36	13	4
900	37	10	0	41	5	0
000	41	13	4	45	16	8
2000	83	6	8	91	13	4
3000	125	0	0	137	10	0
4000	166	13	4	183	6	8
5000	208	6	8	229	3	4
10000	417	13	4	458	6	8

The Quantity of the Commodity to be bought or sold.

The Price of the Commodity by the Tun, Hundred, Pound, Ounce, Dozen, Yard, Ell, &c.

Numb.	1 Shill.		2 Shill.		3 Shill.	
	l.	s.	l.	s.	l.	s.
1	0	1	0	2	0	3
2	0	2	0	4	0	6
3	0	3	0	6	0	9
4	0	4	0	8	0	12
5	0	5	0	10	0	15
6	0	6	0	12	0	18
7	0	7	0	14	1	1
8	0	8	0	16	1	4
9	0	9	0	18	1	7
10	0	10	1	0	1	10
20	1	0	2	0	3	0
30	1	10	3	0	4	18
40	2	0	4	0	6	0
50	2	10	5	0	7	10
60	3	0	6	0	9	0
70	3	10	7	0	10	10
80	4	0	8	0	12	0
90	4	10	9	0	15	10
100	5	0	10	0	15	0
200	10	0	20	0	30	0
300	15	0	30	0	45	0
400	20	0	40	0	60	0
500	25	0	50	0	75	0
600	30	0	60	0	90	0
700	35	0	70	0	105	0
800	40	0	80	0	120	0
900	45	0	90	0	135	0
1000	50	0	100	0	150	0
2000	100	0	200	0	300	0
3000	150	0	300	0	450	0
4000	200	0	400	0	600	0
5000	250	0	500	0	750	0
10000	300	0	1000	0	1500	0

The Quantity of the Commodity to be bought or sold.

Accounts ready cast up.

337

The Price of the Commodity by the Tun, Hundred, Pound, Ounce, Dozen, Yard, Ell, &c.

Numb.	4 Shill.		5 Shill.		6 shill.	
	l.	s.	l.	s.	l.	s.
1	0	4	0	5	0	6
2	0	8	0	10	0	12
3	0	12	0	15	0	18
4	0	16	1	0	1	4
5	1	0	1	5	1	10
6	1	4	1	10	1	16
7	1	8	1	15	2	2
8	1	12	2	0	2	8
9	1	16	2	5	2	14
10	2	0	3	0	3	0
11	2	4	3	5	3	6
12	2	8	4	10	4	12
13	2	12	4	15	4	18
14	3	0	5	0	5	0
15	3	4	5	5	5	6
16	3	8	6	10	6	12
17	3	12	6	15	6	18
18	4	0	7	0	7	0
19	4	4	7	5	7	6
20	4	8	8	10	8	12
21	4	12	8	15	8	18
22	5	0	9	0	9	0
23	5	4	9	5	9	6
24	5	8	10	10	10	12
25	5	12	10	15	10	18
26	6	0	11	0	11	0
27	6	4	11	5	11	6
28	6	8	12	10	12	12
29	6	12	12	15	12	18
30	7	0	13	0	13	0
31	7	4	13	5	13	6
32	7	8	14	10	14	12
33	7	12	14	15	14	18
34	8	0	15	0	15	0
35	8	4	15	5	15	6
36	8	8	16	10	16	12
37	8	12	16	15	16	18
38	9	0	17	0	17	0
39	9	4	17	5	17	6
40	9	8	18	10	18	12
41	9	12	18	15	18	18
42	10	0	19	0	19	0
43	10	4	19	5	19	6
44	10	8	20	10	20	12
45	10	12	20	15	20	18
46	11	0	21	0	21	0
47	11	4	21	5	21	6
48	11	8	22	10	22	12
49	11	12	22	15	22	18
50	12	0	23	0	23	0
51	12	4	23	5	23	6
52	12	8	24	10	24	12
53	12	12	24	15	24	18
54	13	0	25	0	25	0
55	13	4	25	5	25	6
56	13	8	26	10	26	12
57	13	12	26	15	26	18
58	14	0	27	0	27	0
59	14	4	27	5	27	6
60	14	8	28	10	28	12
61	14	12	28	15	28	18
62	15	0	29	0	29	0
63	15	4	29	5	29	6
64	15	8	30	10	30	12
65	15	12	30	15	30	18
66	16	0	31	0	31	0
67	16	4	31	5	31	6
68	16	8	32	10	32	12
69	16	12	32	15	32	18
70	17	0	33	0	33	0
71	17	4	33	5	33	6
72	17	8	34	10	34	12
73	17	12	34	15	34	18
74	18	0	35	0	35	0
75	18	4	35	5	35	6
76	18	8	36	10	36	12
77	18	12	36	15	36	18
78	19	0	37	0	37	0
79	19	4	37	5	37	6
80	19	8	38	10	38	12
81	19	12	38	15	38	18
82	20	0	39	0	39	0
83	20	4	39	5	39	6
84	20	8	40	10	40	12
85	20	12	40	15	40	18
86	21	0	41	0	41	0
87	21	4	41	5	41	6
88	21	8	42	10	42	12
89	21	12	42	15	42	18
90	22	0	43	0	43	0
91	22	4	43	5	43	6
92	22	8	44	10	44	12
93	22	12	44	15	44	18
94	23	0	45	0	45	0
95	23	4	45	5	45	6
96	23	8	46	10	46	12
97	23	12	46	15	46	18
98	24	0	47	0	47	0
99	24	4	47	5	47	6
100	24	8	48	10	48	12
101	24	12	48	15	48	18
102	25	0	49	0	49	0
103	25	4	49	5	49	6
104	25	8	50	10	50	12
105	25	12	50	15	50	18
106	26	0	51	0	51	0
107	26	4	51	5	51	6
108	26	8	52	10	52	12
109	26	12	52	15	52	18
110	27	0	53	0	53	0
111	27	4	53	5	53	6
112	27	8	54	10	54	12
113	27	12	54	15	54	18
114	28	0	55	0	55	0
115	28	4	55	5	55	6
116	28	8	56	10	56	12
117	28	12	56	15	56	18
118	29	0	57	0	57	0
119	29	4	57	5	57	6
120	29	8	58	10	58	12
121	29	12	58	15	58	18
122	30	0	59	0	59	0
123	30	4	59	5	59	6
124	30	8	60	10	60	12
125	30	12	60	15	60	18
126	31	0	61	0	61	0
127	31	4	61	5	61	6
128	31	8	62	10	62	12
129	31	12	62	15	62	18
130	32	0	63	0	63	0
131	32	4	63	5	63	6
132	32	8	64	10	64	12
133	32	12	64	15	64	18
134	33	0	65	0	65	0
135	33	4	65	5	65	6
136	33	8	66	10	66	12
137	33	12	66	15	66	18
138	34	0	67	0	67	0
139	34	4	67	5	67	6
140	34	8	68	10	68	12
141	34	12	68	15	68	18
142	35	0	69	0	69	0
143	35	4	69	5	69	6
144	35	8	70	10	70	12
145	35	12	70	15	70	18
146	36	0	71	0	71	0
147	36	4	71	5	71	6
148	36	8	72	10	72	12
149	36	12	72	15	72	18
150	37	0	73	0	73	0
151	37	4	73	5	73	6
152	37	8	74	10	74	12
153	37	12	74	15	74	18
154	38	0	75	0	75	0
155	38	4	75	5	75	6
156	38	8	76	10	76	12
157	38	12	76	15	76	18
158	39	0	77	0	77	0
159	39	4	77	5	77	6
160	39	8	78	10	78	12
161	39	12	78	15	78	18
162	40	0	79	0	79	0
163	40	4	79	5	79	6
164	40	8	80	10	80	12
165	40	12	80	15	80	18
166	41	0	81	0	81	0
167	41	4	81	5	81	6
168	41	8	82	10	82	12
169	41	12	82	15	82	18
170	42	0	83	0	83	0
171	42	4	83	5	83	6
172	42	8	84	10	84	12
173	42	12	84	15	84	18
174	43	0	85	0	85	0
175	43	4	85	5	85	6
176	43	8	86	10	86	12
177	43	12	86	15	86	18
178	44	0	87	0	87	0
179	44	4	87	5	87	6
180	44	8	88	10	88	12
181	44	12	88	15	88	18
182	45	0	89	0	89	0
183	45	4	89	5	89	6
184	45	8	90	10	90	12
185	45	12	90	15	90	18
186	46	0	91	0	91	0
187	46	4	91	5	91	6
188	46	8	92	10	92	12
189	46	12	92	15	92	18
190	47	0	93	0	93	0
191	47	4	93	5	93	6
192	47	8	94	10	94	12
193	47	12	94	15	94	18
194	48	0	95	0	95	0
195	48	4	95	5	95	6
196	48	8	96	10	96	12
197	48	12	96	15	96	18
198	49	0	97	0	97	0
199	49	4	97	5	97	6
200	49	8	98	10	98	12
201	49	12	98	15	98	18
202	50	0	99	0	99	0
203	50	4	99	5	99	6
204	50	8	100	10	100	12
205	50	12	100	15	100	18
206	51	0	101	0	101	0
207	51	4	101	5	101	6
208	51	8	102	10	102	12
209	51	12	102	15	102	18
210	52	0	103	0	103	0
211	52	4	103	5	103	6
212	52	8	104	10	104	12
213	52	12	104	15	104	18
214	53	0	105	0	105	0
215	53	4	105	5	105	6
216	53	8	106	10	106	12
217	53	12	106	15	106	18
218	54	0	107	0	107	0
219	54	4	107	5	107	6
220	54	8	108	10	108	12
221	54	12	108	15	108	18
222	55	0	109	0	109	0
223	55	4	109	5	109	6
224	55	8	110	10	110	12
225	55	12	110	15	110	18
226						

The Price of the Commodity by the Tun, Hundred,
Pound, Ounce, Dozen, Yard, Ell, &c.

Vnumb	7 Shill.		8 Shill.		9 Shill.		10 Shill.	
	l.	s.	l.	s.	l.	s.	l.	s.
1	0	7	0	8	0	9	0	10
2	0	14	0	16	0	18	1	0
3	1	1	1	4	1	7	1	10
4	1	8	1	12	1	16	2	0
5	1	15	2	0	2	5	2	10
6	2	2	2	8	2	14	3	0
7	2	9	2	16	3	3	3	10
8	2	16	3	4	3	11	4	0
9	3	3	3	12	4	1	4	10
10	3	10	4	0	4	10	5	0
20	7	0	8	0	9	0	10	0
30	10	10	12	0	13	10	15	0
40	14	0	16	0	18	0	20	0
50	17	10	20	0	22	10	25	0
60	21	0	24	0	27	0	30	0
70	24	10	28	0	31	10	35	0
80	28	0	32	0	36	0	40	0
90	31	10	36	0	40	10	45	0
100	35	0	40	0	45	0	50	0
200	70	0	80	0	90	0	100	0
300	105	0	120	0	135	0	150	0
400	140	0	160	0	180	0	200	0
500	175	0	200	0	225	0	250	0
600	210	0	240	0	278	0	300	0
700	245	0	280	0	315	0	350	0
800	280	0	320	0	360	0	400	0
900	315	0	360	0	405	0	450	0
1000	350	0	400	0	450	0	500	0
2000	700	0	800	0	900	0	1000	0
3000	1000	0	1200	0	1350	0	1500	0
4000	1400	0	1600	0	1800	0	2000	0
5000	1750	0	2000	0	2250	0	2500	0
10000	3500	0	4000	0	4500	0	5000	0

The Quantity of the Commodity to be bought or sold.

The Price of the Commodity by the Tun, Hundred, Pound, Ounce, Dozen, Yard, Ell, &c.

No	1 st Lib.	2 ^d Lib.	3 ^d Lib.	4 th Lib.	5 th Lib.
1	1.	1.	1.	1.	1.
2	1	2	3	4	5
3	2	4	6	8	10
4	3	6	9	12	15
5	4	8	12	16	20
6	5	10	15	20	25
7	6	12	18	24	30
8	7	14	21	28	35
9	8	16	24	32	40
10	9	18	27	36	45
100	10	20	30	40	50
200	20	40	60	80	100
300	30	60	90	120	150
400	40	80	120	160	200
500	50	100	150	200	250
600	60	120	180	240	300
700	70	140	210	280	350
800	80	160	240	320	400
900	90	180	270	360	450
100	100	200	300	400	500
200	200	400	600	800	1000
300	300	600	900	1200	1500
400	400	800	1200	1600	2000
500	500	1000	1500	2000	2500
600	600	1200	1800	2400	3000
700	700	1400	2100	2800	3500
800	800	1600	2400	3200	4000
900	900	1800	2700	3600	4500
1000	1000	2000	3000	4000	5000
2000	2000	4000	6000	8000	10000
3000	3000	6000	9000	12000	15000
4000	4000	8000	10000	16000	20000
5000	5000	10000	15000	20000	25000
10000	10000	20000	30000	40000	50000

The Quantity of the Commodity to be bought or sold.

The use of the foregoing Tables.

THESE tables will serve for many uses; but that which they will be most used about, as being most necessary, is to find out the true account of any number of ells, yards, or pounds, being sold for so much the ell, yard, or pound.

Example. What will 5000 ells of linnen, at 11 pence the ell come to? To find this, first look to the price of the ell at the head of the table, then look down the side of the table for the number of ells, so you shall find in the last column but one in the table, and in the last line but one thereof, that 5000 of any thing at 11 pence a piece, comes to 229*l.* 3*s.* 4*d.*

If you cannot find your price in one column, or number of things in one line, you must take two or three parts thereof, and add them together.

Another example.

What will 1500 ells, at 9*d.* come to?
In the table of nine pence you find,

<i>l.</i>	<i>s.</i>	<i>d.</i>
For 1000 nine pences	37	10 0
For 500 nine pences	18	15 0

In the table of half pence,

For 1000 half pence	2	1 8
For 500 half pence	1	0 10

59 7 6

A Compleat

COMPENDIUM

OF

GEOGRAPHY,

Describing all the

EMPIRES, KINGDOMS and DOMINIONS

IN THE

WHOLE WORLD.

SHOWING

Their Bounds, Situations, Dimensions, Religions,
Languages, Commodities, Divisions, Rivers, Moun-
tains and Lakes; with their Archbishopricks, Bi-
shopricks, and Universities.

TO WHICH IS PREFIXED,

A method for learning geography without a master,
for the use of such grown persons as have neglect-
ed this useful study in their youth.

AND ALSO

A Table, shewing the parallel of latitude, the breadth,
and the length of the day in every climate.

In a most plain and easy method.

To learn Geography without the Directions of a Master.

THE person who desires to learn geography must have a set of maps, and after reading over the situation of each empire, &c. he should be very exact in finding out in the map, the several places mentioned therein; and thus by reading each article several times over, and comparing them with the maps, any grown person may soon know the most remarkable places in the world, their situation, boundaries, &c. and will insensibly by degrees remember the names of them.

The following maps, which may be purchased at a small expence, may be sufficient to instruct any reader, and render this treatise easy and intelligible, viz.

The world, Europe, Asia, Africa, North America, South America, England, Scotland and Ireland.

It is highly necessary, that the different parts of each of those maps should be distinguished by different colours, or at least by points or lines.

A Table shewing the Parallel of Latitude, the Breadth, and the Length of the Day in every Climate.

Climates betwixt the Equator and the Polar Circles.									
Parall			Bdth	Day.	$\frac{C}{g}$	Parall		Bdth	Day.
D. M.	D. M.	H. M	D. M.	D. W.	D. M.	D. M.	D. M.	D. M.	D. M.
1 8 34	8 34	12 30	13	59 59	1 33	18 30			
2 6 43	8 09	13 00	14	62 18	1 19	19 00			
3 24 11	7 28	13 30	15	63 25	1 07	19 30			
4 30 47	6 36	14 00	16	63 23	0 52	20 00			
5 36 30	5 41	14 30	17	64 16	0 53	20 30			
6 41 22	4 52	15 00	18	64 55	0 39	21 00			
7 45 29	4 07	15 30	19	65 25	0 30	21 30			
8 49 01	3 32	16 00	20	65 47	0 22	22 00			
9 51 58	2 57	16 30	21	66 06	0 19	22 30			
10 54 29	2 31	17 00	22	66 20	0 14	23 00			
11 56 37	2 12	17 30	23	66 28	0 08	23 30			
12 58 26	1 40	18 00	24	66 31	0 03	24 00			
Climates between the Polar Circles and the Poles.									
1	67 31	1 00	1 Mo.	4	78 20	4 00	4 Mo.		
2	69 31	2 00	2 Mo.	5	84 00	5 40	5 Mo.		
3	73 21	3 50	3 Mo.	6	90 00	6 00	6 Mo,		



A

DESCRIPTION of the WORLD.

GEOGRAPHY is a science which teacheth the description of the earth. It differs from Cosmography as a part from the whole, and from Chronography and Topography as the whole from its parts.

The earth is a spherical body, which together with the water make up one globe of so perfect and exact a form, and so beautified and adorned by the God of nature, that from its elegance and beauty, it was called by the Greeks *Kοσμος*, and by the Latins *Mundus*.

It is situate, according to Ptolemy and Tycho, in the center of the universe, but according to Copernicus, between the orbs of Mars and Venus: its substance so wonderful, as may well express that unlimited power that performs infinitely beyond our imaginations.

As to its magnitude, it is 21600 miles in circuit (allowing, according to the vulgar account, 60 to a degree) its diameter 6874 miles; its semidiameter 3436; its superficies in square miles 148510584, and its solid content 169921796242 cubical miles.

For the better understanding all its parts, it may be divided into four general heads, viz. 1. Its imaginary parts; 2. its real parts; 3. in respect to its inhabitants; and, 4. its national parts.

1. Imaginary parts.

The imaginary parts are only supposed, for the clearer understanding of this science; they are, 1. poles, 2. circles, 3 zones, and 4. climates.

1. The poles are the extreme points of the axis, which are supposed to pass through the center of the earth, and on which it is supposed to move daily about. They an-

swer to the poles of the heavens (as the other imaginary parts) being the farthest distant from the equator; in number two, viz. 1. The arctic, or north pole; and, 2. the antarctic, or south pole.

2. The circles are divided into the greater and lesser; the greater divide the world into two equal parts: number four, viz. 1. The equator, compassing the earth equally between, and the farthest from the poles; when the sun is here, the days and nights are equal. 2. The zodiac (in which is the ecliptic) cutting the equator obliquely, thro' which the sun passes in a year. These two are immoveable. 3. The horizon, dividing the visible parts of the heavens from the invisible. 4. The meridian, dividing the horizon into two equal parts: when the sun is here it is noon. These two are moveable.

The lesser circles divide the world into two unequal parts; they are, 1. The tropics, which terminate the sun's distance from the equator, being 23 degrees and a half from it: when the sun is here it is either summer or winter. They are two, viz. of Cancer on the north, and of Capricorn on the south side of the equator. 2. The polar circles, 66 degrees and one half of the equator, and 23 and one half of the Poles; they are called the Arctic and Antarctic circles. 3. The Parallels, which are parallel to the Equator, set in maps to shew the latitude, as the meridian lines are to shew the longitude of places. Note, that the latitude is the distance from the equator, and longitude from the first meridian, made commonly at the Capary isles.

3. The Zones are certain spaces of earth included between two lesser circles. In number five; viz. one torrid Zone, which lies between the tropics: two temperate Zones, between the tropics and polar circles; and two frigid Zones, between the polar circles and the poles.

4. A Climate, or Climate, is a space of earth, between two parallels, in which the longest day is increased half an hour; as for example, in the first Climate, the longest day is 12 hours and a half; in the second 13 hours; in the third,

13 hours and a half, &c. they are in number 24, that is from the equator to the polar circles.

2. Real Parts.

The real parts are such as have a real existence upon the superficies of the earth, divided into, 1. Water, and, 2. Land.

1. Water is divided into, 1. Ocean, called a general collection or rendezvous of all waters, giving bounds to the regions of the earth. 2. Sea, a part of the ocean encompassed with land, except one streight, such as the Mediterranean and Baltic. 3. Streight, a part of the ocean restrained into narrow bounds, opening the way to a sea, as those of Maghalonica and Gibraltar. 4. Lake, a large space of water, wholly encompassed with land, as Parima and Zair. 5. Creek or gulf, a crooked shore, thrusting forth as it were two arms to hold the sea, as those of Venice and Lepanto; as for Rivers, Ditches, Brooks, Fountains, &c. they need no description.

2. Land, divided into, 1. Continent, a vast tract of land where many nations are joined together, as Europe, Asia, &c. 2. Island, a space of land wholly encompassed with sea, as Britain, Japan, &c. 3. Peninsula, a space of land encompassed with sea except one small part, as Morea, Malacca, &c. 4. Isthmus is that space of land that joins a peninsula to a continent. 5. Promontory, a mountain shooting itself into the sea, the end of which is called a Cape, as the Cape of Good Hope, Cape Verd, &c. As for Mountains, Rocks, Valleys, Fields, Forests, Woods, Plains, &c. they are all well known.

3. Inhabitants.

The earth is divided in respect of its inhabitants into the right hand and left. 1. To Poets the north was counted the right hand, and the south the left. 2. To Priests, the south is the right hand, and the north the left. 3. To Astronomers, the west is the right hand, and the east the left. And, 4. to Geographers, the east is the right,

and the west the left. The inhabitants themselves are distinguished; 1. In respect of their situation. 2. According to their shadows. 3. In respect to the position of the Globe. And, 4. according to the countries.

1. Those according to their situations are divided into, 1. *Aræci*, which lie under the same meridian, and same longitude, but on different sides of the equator. 2. *Perici*, which live on the same sides of the equator, and the same latitude, but on opposite sides of the globe. 3. *Antipodes*, that live diametrically opposite to each other.

2. Those according to their shadows, are divided into, 1. *Auphici*, (called also *Afici*) who live in the Torrid Zone, whose shadows tend both ways. 2. *Perici*, which live in the Frigid Zones, whose shadows tend all ways. 3. *Heteroci*, in the Temperate Zones, whose shadows tend one way.

3. Those according to the position of the Globe, are distinguished into, 1. Such as live in a Right Sphere (under the Equator) where the stars rise and set at right angles. 2. Such as live in an Oblique Sphere (between the Equator and Poles) where the stars rise and set obliquely. 4. As live in a Parallel Sphere (under the Poles) where the stars are always parallel to the Horizon.

4. Those according to the countries, are distinguished into a great many nations and people, as French, Spaniards, Italians, Germans, &c. all which shall be more particularly treated of hereafter.

4. National Parts.

The earth in respect to its countries is divided into four parts, viz. 1. Europe, 2. Asia, 3. Africa, and 4. America; to which may be added, 5. *Terra borealis incognita*, and, 6. *Terra australis incognita*. These are divided into Empires, Kingdoms, Regions, Countries, Nations, &c. subdivided into Provinces, Governments, Prefectures, Circles, Territories, Districts, Countries, &c.

As for the Empires, there are six of special note at present, viz. Turkey, Russia, Persia, Tartary, India, and

Abissinia; to these we may add three others that go by the name, viz. Germany, Morocco, Monomotopa. The description of these, with the kingdoms, inferior provinces, and sovereignties, is the main design of this compendium.

Countries are for the most part divided according to princes dominions (but not always so;) they are separated from each other, 1. Sometimes by sea, as Germany, and Denmark from Swedeland, 2. Sometimes by rivers, as Natoria from Turcomania, 3. Sometimes by mountains, as France from Spain, 4. Sometimes by walls, as China from Tartary, and 5. Sometimes divided only according to the towns and sorts of the princes, as France, from the Low Countries. Thus much for the world in general.



A Description of EUROPE.

THE continent of Europe is situated between 36 and 72 degrees of north latitude, and between 10 degrees west, and 65 degrees of eastern longitude, being bounded by the frozen ocean on the north; by Asia on the east; by the Mediterranean sea, which separates it from Africa on the south; and by the Atlantic ocean on the west.

This continent, with its islands, is divided into three grand divisions, viz. the northern, containing Russia, or Muscovy, Sweden, Denmark, and Norway, Great Britain and its islands, Iceland, Greenland and the islands of the Baltic.

The middle division consists of Poland, Germany, and the adjoining hereditary dominions of the house of Austria, the Low Countries or Netherlands, France, and its conquests on the Rhine.

The southern division contains Turkey in Europe, the tributary provinces of Moldavia, Wallachia, the Crim and lesser Tartary, Switzerland and their allies, Italy, Spain, Portugal, and the islands in the Mediterranean.

Russia, or Muscovy, contains a very large part of Eu-

rope, but though the north is but little inhabited, as producing few of the necessaries of life, yet many of the middle, and southern provinces are as fruitful as any in Europe, producing every species of corn and fruits which do not require a very warm climate. The inhabitants were civilized, and from Barbarians, were, in some measure, made a warlike and industrious people, by the conduct and example of Peter the Great. But they have not yet learned to trade much in their own bottoms, their goods being exported in foreign shipping; from which also they receive the produce of the southern countries of Europe. Our Russia merchants export thither coarse woollen cloths, long ells, worsted, fluffs, tin, and tobacco: and from thence import hemp, flax, coarse linen, linen yarn, Russia leather, furs, tallow, iron, and pot ashes. The dominions of the Russian empire extend far into Asia, and even reach to the Pacific ocean, being a length from east to west upwards of 3000 miles, and 2500 in breadth from north to south. The government is arbitrary and despotic, and their religion that of the Greek church.

Sweden is a cold country, encumbered with barren rocks and mountains, and a great part of the year covered with snow; it has few navigable rivers, but abundance of torrents, which running precipitately from their rocks and mountains, after a short course, run into the Baltic sea, which is frozen up four or five months in the year. The country is filled with great lakes and marches; Lapland and the northern part produce scarce any vegetables, but between the mountains there are fruitful valleys. The riches of this country chiefly consist in the mines of silver, copper and iron. They export from Sweden hardware, pitch, tar, rosin, masts, deals, and wooden wares, and import thither silks, fluffs, wine, brandy, sugar, spices, tobacco, linen, paper, and haberdashery wares. Their trade to England has been hitherto most advantageous, the English taking the produce and manufactures of the country, and giving them near two thirds of silver in return: but the encouragement now given for importing;

ron from New England, must put a stop to a commerce so disadvantageous to us. The inhabitants are, protestants of the Lutheran persuasion.

Denmark consists of Jutland, the island of Zealand and Funen, and the little islands about them. The peninsula of Jutland was antiently called the Cimbrian Chersonese, or the peninsula of the Cimbri. The country is generally flat, barren, and sandy; and the air is commonly thick and foggy, occasioned by the seas which almost surround it, and by the numerous lakes in the heart of the country; however, in some parts there are plenty of corn and pasturage. Its chief commodities are fish, furniture for ships, ox hides, tallow, fir, wainscot, &c. The longest day is seventeen hours and an half, and the shortest eight and an half. Their kings have been sometimes hereditary, and at others elective; and sometimes limited, and at others absolute, as they have been ever since the year 1660, when the peasants, groaning under the oppressions of the nobility and gentry, agreed to make the crown absolute and hereditary; they were joined by the clergy, and the king having assembled the nobility and gentry in a garrisoned town, in a manner compelled them to resign their liberties. Their religion is Lutheran, as is that of Norway, which is subject to Denmark, and the church lands being seized by the government at the reformation, the clergy depend on the state for their subsistence.

Norway is extremely cold and barren, and on that account is but thinly inhabited. The poor people dry their stock fish, and use it instead of bread. Their chief commodities are stock fish, furs, train oil, pitch, masts, cables, and deal boards, which they exchange for corn, wines, fruits, and the other necessaries and conveniences of life.

As to the islands of Greenland and Iceland, they are cold miserable countries, and but thinly inhabited.

As we are most concerned in the history of Great Bri-

tain and Ireland, we shall give a more particular description of them, and place it in an article by itself.

We shall now treat of the middle division of Europe.

Poland is a large and level country, being 660 miles in length from north to south, and 560 from east to west. It is a flat level country, well watered by lakes and rivers, the land fruitful, and producing great quantities of wheat and rye; with rich meadows and pastures, which feed vast flocks and herds of cattle; it abounds with wax, pitch, salt, soap, rosin, flax, butter, cheese, corn, and rich furs. The government is an elective monarchy, but the king is so restrained by laws, that he has little else besides the shadow of royalty; and while the nobility and gentry are absolutely free, the people are in the most abject slavery, without property, or any thing they can call their own. The nobility and gentry, who are their landlords, or rather masters, are all as despotic as kings, and have the liberty of doing what mischief they please; they pay only an inconsiderable fine for taking away the life of a tenant; they seize and destroy at pleasure, so that, under the appearance of freedom, this seems to be the worst constitution upon earth. As the whole nation is composed of absolute masters and abject slaves, the latter are only employed in cultivating earth; all the manufactures necessary for the country are carried on by foreigners, and in general by the Jews, who are almost the only people who keep shops, and work at trades. The religion of the country is that of the Romish profession, but Jews and protestants are tolerated. The metropolis of Poland is Warsaw, a large and populous city.

Germany is generally on the north and east, a level country, consisting of barren sands, or marshy grounds; on the south it is encumbered with the mountains of the Alps, but in the middle there is a variety of hills, valleys, fruitful fields and meadows, more particularly along the banks of the Rhine, the Danube, &c. and is adorned with a bundance of fine cities, castles, and palaces. This vast country is divided into ten circles, viz. three on the north,

the circles of Upper and Lower Saxony, and that of Westphalia. Three on the south, the circles of Austria, Bavaria, and Swabia. Three about the middle, the circles of Franconia, of the Upper and Lower Rhine. And lastly the circle of Burgundy, which formerly consisted of the dutchy of Burgundy, and the 17 provinces of the Netherlands; but these last have been long severed from the empire. There are in Germany upwards of three hundred sovereign princes and states, most of them arbitrary within their own territories. The emperor is the fountain of honour, and disposes of almost all these places that are not hereditary, and which have a relation to the government of the whole empire. When an emperor dies, his successor is chosen by the nine electors; but if a king of the Romans has been chosen in the preceding reign, he succeeds of course. By the golden bull, the person elected ought to be a Christian prince, of German extraction, and 28 years of age. Before he is installed he signs a capitulation presented him by the electors, princes, and states of the empire; that he will not alienate the lands or revenues of the crown, introduce foreign forces, or employ foreigners in his service. In return, they are all obliged to assist him, and to join their forces in a time of common danger, and to maintain them at their own expense; and, supposing them unanimous, they are able to raise and pay 500,000 men. The people are of various opinions in religion, the principal sects are those of the Papists, Lutherans, and Calvinists; and there are also Independents, Baptists, Quakers, the Moravian brethren, &c but the emperor is always a Papist. Germany produces corn, wine, oil, bacon, beer, mum, flax, hemp, and fine timber; also black cattle, sheep, and excellent horses. They have mines of iron, copper and silver, of which the silver mines in Hanover are of more value than all the other silver mines in Europe put together. They have also lead, salt, coal, vitriol, quicksilver, nitre, ocre, and sulphur. The people are excellent artists, and are remarkable for their honesty and sincerity in their dealings. Vi-

enna is the metropolis of the German empire, and the seat of the emperor.

The hereditary dominions of the house of Austria, are Bohemia, Hungary, Transylvania, Schavonia, and Croatia.

The Netherlands are only about 300 miles long, and 100 broad; these contain seventeen provinces, of which seven are possessed by the Dutch, and are called the United provinces, and the other are called the Austrian and French Netherlands. The names of the united provinces are Holland, Zealand, Friesland, Groningen, Overissel, Gelderland, Zutphen and Utrecht. The other ten provinces are Brabant, Flanders, Hainault, Limburg, Luxembourg, Namur, Artois, the Cambrésis, the Marquisate of Antwerp, the Lordship of Malines, or Mechlin. Of these the French possess the entire provinces of Artois and Cambray, part of Flanders, Hainault, and Luxembourg; the Dutch the north of Brabant and Flanders, and all the rest are subject to the house of Austria.

France is one of the most flourishing kingdoms of Europe, but is not so populous as Germany. The soil is exceeding fertile, producing corn, wine, oil, silk and flax in great abundance, and is extremely well situated for a foreign trade, as it lies on the Atlantic ocean, the English channel, and the Mediterranean sea, and is watered by many large and navigable rivers. Their manufactures are of linen, woollen, silk and lace, with which they trade to Spain, Italy, Turkey, and to the East and West Indies. The air is temperate, agreeable and healthful; the manners of the people are polite, and they are the most active and enterprising of any nation in Europe. They are under an absolute government, and profess the Romish religion, though they pay less regard to the pope than any other of his children: but, nevertheless, the protestants, which are here very numerous, are seldom free from persecution.

Of the southern division of Europe, Turkey is the most

easterly, and therefore to preserve the order in which we proceed with the others, we shall begin with that first.

Turkey in Europe is a very extensive empire, comprehending some of the richest countries in this part of the world, extending upwards of 1000 miles from East to West, and 500 in breadth from North to South, with the numerous islands in the Archipelago, or Egean sea; but part of them are in Asia, where, as well as in Africa, their dominions are very considerable. In Europe the Turks are possessed of Romania, Bulgaria, Servia, Bosnia, Ragusa, Wallachia, Moldavia, Bessarabia, Budziac, and Occzakow, Tartary, Crimea and little Tartary, with Albania, Epirus, Macedonia, Thrassia, and all the ancient Greece. Situated as they are, in the centre of the continent, they might command the trade of the whole world: but this advantage they have lost by their indolence and inactivity, and the destructive maxims of their government. The goods imported from Turkey are raw silks, carpets, goats hair, mohair yarn, goats wool, cotton wool, and yarn, dimities, burdets, skins, cordovants, blue, red, and yellow; coffee, rhubarb, turpentine, opium, gum senega, terralemania, claua root, and abundance of other drugs; wine, oil, figs, raisins, dates, almonds, pistachio nuts, allom, vitriol, boxwood, bees wax, saffron, &c. Constantinople is the seat of the grand seignior, who is an absolute prince.

Italy has a pure temperate and healthful air, and the soil is in general exceeding rich, but the people are so broke with slavery, and harraßed with the tyrannies, oppressions, and impositions of their priests, that it is far from being sufficiently cultivated. It is in length from north west to south east, 600 miles, and upwards, but the breadth very unequal, as it is said to resemble a boot; it is described, as having the top 400 miles broad from east to west; in the calf of the leg, or middle, it is about 120, and towards the instep 80 miles broad. In the north are the duchies of Savoy, Piedmont, and Montserrat, subject to the king of Sardinia; the territory of Genoa, subject to the Genoise; the duchies of Milan, Mantua,

and the rest of the Montserrat subject to the house of Austria; the dukedom of Modena, subject to its own duke; and the large territories of Venice, subject to that republic. In the middle of Italy is the dukedom of Tuscany, subject to the duke of Lorrain; the pope's dominions, which almost surround Tuscany; and the state of Lucca. In the southern division is the kingdom of Naples, subject to the king of the two Sicilies. The people have a taste for the polite arts, and excel in architecture, statuary, music, and painting. Our trade to Italy is carried on by separate merchants, who export broad cloths, long ells, bays, druggets, calimancoes, camblets, and other stuffs; leather, tin, lead, fish, pepper, and East India goods; for which they in return import raw and wrought silk, velvets, wine, oil, soap, olives, anchovies, and drugs for dying.

Switzerland is situated in the valleys between the Alps, the highest mountains in Europe, which, though lying between 45 and 48 degrees of north latitude, are for a great part of the year covered with snow, and the air is here much sharper than in countries that ly more to the north. From these mountains the largest rivers in Italy have their source, particularly the Rhine, the Rhone, the Danube, the Rufs, and the Inn. Here are also extensive lakes; those of Constance and Geneva are each sixty miles long. The soil produces some corn and wine, but as the fruits of the earth are frequently destroyed by storms, or cold rains, they, to prevent the poor from perishing, in plentiful years lay up their corn in magazines. They breed and supply the neighbouring countries with abundance of cattle. They have some crape and linen manufactures; but as almost all their cloathing is imported from abroad, they wisely rectify this inconvenience, by retrenching all superfluities. Switzerland is divided into three classes Swiss, Proper, or the thirteen cantons, the subjects of Switzerland, or the conquered countries, and the allies of Switzerland, as the Grisons, the republic of Genoa, &c. of the thirteen cantons some are protestant, and other po-

pish cantons, but they all unite against a common enemy.

Spain enjoys a fine air, and generally serene settled weather, except in spring and autumn; the winter is so moderate in the valleys, that for nine months in the year they have very little occasion for fires; but in June, July, and August, the heats are very troublesome. The soil produces excellent wheat and barley; they have rich pastures, and their wool is the best in Europe; they abound in wine, oil, and silk, and in oranges, lemons, raisins, citrons, prunes, figs, capers, chestnuts, almonds, and pomegranates; they have valuable mines of copper, lead, allom and sulphur, and the iron and steel of Biscay is reckoned the best in Europe. But, notwithstanding so fine a country, and the vast treasures they have drained from their American mines, Spain is poor, and but thinly peopled; but their poverty may be, in a great measure, ascribed to their pride and indolence. Their land is cultivated by foreigners, and they export great part of the produce of their country unwrought. Those of our merchants that trade to Spain, export broad cloaths, druggs, bays, long cloth, calamences, and other stuffs, tin, lead, leather, fish, corn, hofe, and haberdashery wares, and from thence import wine, oil, salt, and fruit. It is computed that from this trade England receives a greater balance than from that of any other nation, except the Portuguese.

Portugal is the most westerly kingdom in Europe, being about 300 miles long, and 100 broad; it is neither so hot nor so fruitful as Spain, and is encumbered with some of the most barren and unprofitable mountains; which, however, towards the bottom, being planted with vines, produce most excellent wine; and though the soil produces plenty of olives, as well as oranges, and lemons, yet they have not corn enough for their subsistence. The foreign trade of the Portuguese consists either in the exportation of the produce of their own soil, or in the merchandize they receive from their settlements in Asia, Africa, and America. There is no country to which the English.

trade to greater advantage; for though we import the greatest part of their wine and fruit, they take our wool: len manufactures in return. The inhabitants of Spain and Portugal are the most bigotted Papists in Europe.



A Description of ASIA.

ASIA is situated between 25 and 148 degrees of eastern longitude, and between the equator, and 72 degrees of north latitude, being bounded by the frozen ocean on the north, by the Archipelago, the Euxine sea, &c. which separates it from Europe on the north west; by the Red Sea, which separates it from Africa on the south west; by the Indian ocean on the south; and by the pacific ocean on the east.

This quarter of the world is thrown into three grand divisions, the first containing the empire of China, Chinese Tartary, and the oriental islands on the east. The second, India, Ubee Tartary, Calcut Tartary, and Siberia in the middle. And the third containing Persia, Arabia, Astracan, Circassian Tartary, and Turkey in Asia and the west.

China, including Chinese Tartary, is divided from Siberia by the river Argun, and is 2000 miles in length from north to south, and 1000 in breadth from east to west. This vast empire is usually divided into 16 provinces, in which are computed 155 capital cities, 1312 of the second rank, and 2357 fortified towns. On the limits of China, there is a stone wall 1500 miles long, built to defend them against the incursions of the Tartars; but, notwithstanding this, about an hundred years ago they made a conquest of China. This is thought to be the most populous empire in the world. In the north and very far to the south, the air is very cold, occasioned by the height of the land. The chief produce of the country is silk, china ware, tea, gold dust, and Japan work, of which England, Holland, Portugal, and France, import a great deal, sending them silver in return. Their religion is pagan, of which

Several sects are tolerated. Europeans complain of them as a very deceitful people.

Of all the eastern islands, those of Japan are the most famous; that called Japan, and which gives its name to all the rest, is about 600 miles long, and from 100 to 150 broad, besides which, there are several others of a considerable bigness, all subject to the emperor of Japan, who has fifty or sixty vassal princes under his dominions. The revenues of this emperor are said to be greater than those of any monarch upon earth. They trade with the Chinese, but no European nation are allowed this privilege, except the Dutch, who carry to Japan spices, sugar, silks, woollen and linen cloth; elephants' teeth, and haberdashery wares, and they receive in return gold, silver, fine copper, cabinets, and other Japan and lacquered wares.

The peninsula of India, or India Proper, is the most southern part of the second division of Asia, and is about 2000 miles from south to north, and in the broadest part 1500 from east to west. The northern part of this vast country has a temperate, healthy climate, but in the south it is extremely hot, especially when the winds blow in April and May. They have periodical rains, which, beginning in June, last till October, which is the season for planting and sowing; but they have scarce any grain besides rice, except in the north. The produce of the continent of India, and what the Europeans export from thence, are chints, calicoes, muslin, pepper, and diamonds, which most nations purchase with silver; but the Dutch frequently barter spices for them. Their religion is paganism, and they all believe in the doctrine of transmigration. They are under the government of the great Mogul, an arbitrary and despotic prince, who is the sole landlord and proprietor as well as sovereign.

India beyond the Ganges extends near 2000 miles from north to south, but is of a very unequal breadth. It comprehends the kingdoms of Asem, Ava, Pegu, Laos, Siam, Cambodia, and Malacca; the last is in the possession of the Dutch, and the rest are governed by as many Indians.

princes. Great part of this country would be intolerable hot, were it not for the periodical rains, which, when the sun is vertical, overflow the country, and the breezes which come from the sea. The natives are of an olive colour, and their religion various sects of paganism. There is no country where there are such numbers of elephants. Our merchants here meet with gold and other precious stones, canes, opium, and such other articles as are usually found between the tropics, but they have no corn except rice.

Tartary, which is the same as the antient Scythia, comprehended all the north of Europe and Asia, of which the Russians possess the principal part, and have given it the name of Siberia; and this part of their dominions extend even to the pacific ocean, and is 2000 miles in length, and 1500 in breadth. The Tartars of Astracan, and the Calmuc Tartars, are also subject to Moscow; those of Circassia and Dagistan, sometimes put themselves under the protection of the Turks and Persians, and sometimes of the Russians. The Usbec Tartars are tributary to the sovereign of Persia. Northern Tartary is a barren country, almost always covered with snow, in which are few houses or inhabitants. But in the south the Tartars enjoy a temperate climate, and a fruitful soil; yet they do not apply themselves to cultivate the land, but are continually moving from place to place to find pasture for their numerous flocks and herds.

Persia is the first country we shall mention in the third division of Asia. It is 1200 miles long, and almost as many broad. In the south, which lyes near the tropic of cancer, the air is so excessive hot, that for two or three months in the year it is dangerous to stir out at noon; for at that time the winds blowing over a vast tract of burning sands, are heated to such a degree as frequently to prove mortal. There is very little water, but what they have is managed with the greatest care, and conveyed through innumerable aqueducts to their towns, their fields and gardens. It is a country encumbered with barren mountains, but whose valleys are fruitful. They have

a prodigious variety of the richest fruits, but scarce any corn except rice. The soil also produces abundance of medicinal drugs; and they have a fine breed of horses: but as the country is very sandy, and filled with large desert, their camels and dromedaries are their most useful animals. One of the principal manufactures of Persia is embroidery in gold and silver, on cloth, silk, or leather. Turkey leather is chiefly brought from hence and carried thro' Turkey; as also those called Turkey-carpets are really made here. But the principal manufacture of the country is that of silk, which they either work up alone, or mix with cotton, camel, or goats hair: their broads, gold tissue, and gold velvet are admirably fine. They also manufacture camel hair stuffs, camblets, silk and worsted druggets. Their greatest men are merchants, but the Armenians and Indian banyans, who reside there, carry on the most distant foreign traffick. They take broad cloth from England, in exchange for their raw silk, and an act has lately passed here for carrying on the same trade through Russia. Our East India company have long traded thither by the way of Gombroon and the Persian gulph. The people are civil to strangers, but live in a luxurious manner: their religion is that of the mahometan, and the sophy of Persia is an absolute prince. Arabia joins on the east to Persia, and is a country of vast extent, governed by several princes, and divided into many states. The people generally live in tents, and move from place to place to find pasture and water for their cattle, great part of the country being a dry and barren desert.

Turkey in Asia, contains Chaldaea, now called Eyraca, Arabic, Mesopotamia, now Diarbeck, part of Assyria, now called Curdistan, Armenia, now Turcomania, part of Georgia, Mingrelia, and Circassia; part of Arabia, Syria, Palestine, Natalia, or Asia Minor. Some of which are as fine and fruitful countries as any in the world.

A Description of AFRICA.

AFRICA is joined to Asia by the narrow isthmus of Suez, and situated between 37 degrees north, and 35 degrees south latitude, and between 18 west, and 51 degrees east longitude, bounded by the Mediterranean, which separates it from Europe on the north, by the isthmus of Suez, the Red sea, and the eastern ocean, which divides it from Asia on the east; by the southern ocean on the south; and by the Atlantic ocean, which separates it from America on the west.

Africa is divided into ten divisions, Egypt, Abyssinia, or the Upper Ethiopia; the coast of Anian and Zanguebar; Monomotapi, Mosomotapa, and Caffaria, or the Lower Ethiopia; Congo, Angola, and Guinea; Nigritia, or Negroland; Zaara; Biledulgerid; the ancient Numidia; the empire of Morocco; and the coast of Barbary.

Egypt is situated near the extremity of the Mediterranean, and is 600 miles in length from north to south, and from 100 to 200 in breadth from east to west. The air is here very hot, and the soil extremely fertile, occasioned by the overflowing of the Nile, without which, it would be a barren waste, as it very seldom rains in this country. The lower Egypt is a triangular island, made by the Levant, and the two principal branches of the Nile. No place in the world is better furnished with corn, flax, fish, fruits, and the most excellent garden stuff; but the people are very subject to have sore eyes. The Egyptians were the inventors of almost all arts, and there are still to be seen their antient pyramids, one of which is 700 feet high. Egypt is subject to the Grand Seignior, but his authority is extremely limited by the Egyptian princes.

Ethiopia superior, comprehending Abyssinia, Nubia, and Aber, joins to Egypt on the south. The river Nile rises from a lake almost in the middle of Abyssinia, which being swelled by the periodical rains, that fall annually be-

tween the tropicks, overflow Egypt and the lower grounds which border on that river. The country produces plenty of corn, rice, wine, sugar, flax, and all other fruits proper for the climate; but the Turks being in possession of Aber, have shut up all the avenues to this country. Camels, horses, oxen, sheep, and asses are their cattle. The Abyssines are perfectly black, but have neither flat noses nor thick lips. It was the king of this country who was called Prester John. They keep both the Christian and Jewish sabbath, and both baptize and circumcise their children, and even their female children.

The coast of Anian is a barren country, on the coast of Abyssinia, subject to several African princes.

Zanguebar, is another country on the east of Asia, lying on the south of Anian, and contains the provinces of Majadora, Melinda, Quiloa, Mozambique and Sofola. The Portuguese have here made several settlements, and trade with the natives for gold, slaves, ivory, ostrich feathers, wax and drugs.

Cassaria, or the country of the Hotentots, lies in the southernmost part of Africa, and almost surrounds the inland country of Monomotapa, a part very little known; the Hotentots are a savage and nasty people. In this country the Dutch have built a town and castle near the most southern promontory, called the Cape of Good Hope.

Congo and Angola lie on the west of Cassaria. Thither the European merchants resort to purchase slaves; These countries are subject to several Negroe princes; but as the Portuguese have a great many settlements on this coast, and in the inland country, they pretend to the dominion of the whole, and that these princes are their vassals; however, the trade is open to all the nations that please to traffick with the natives. The chief town on this part of the continent is St. Salvador; but the capital of all the Portuguese settlements in this part of Africa, is the city of Loango, in a small island near the coast. The slaves of Angola, as they are not bred to labour, are

generally agreed to be the largest and most untractable of any of the slaves purchased upon the coast.

Guinea coast has the Atlantick ocean on the south and west, and is divided into the grain coast, from its chiefly producing Guinea grain; the ivory coast, from the plenty of elephants teeth found there; the gold coast, from its furnishing most gold; and the slave coast, from its furnishing the greatest number of slaves. The English, Dutch, and French, have forts and factories on this coast; for the Portuguese, after having possessed the whole for upwards of 100 years, were drove from hence by the Dutch. The princes of the inland country being almost always at war, sell their prisoners to the Europeans for slaves.

Negroland is a fruitful country, producing rice, Guinea grain, and Indian corn; also cocoa nuts, plantain, pulse, palm trees, and tropical fruits. The Europeans trade thither for slaves, gold, ivory, bees-wax, gum senega, and other drugs.

Zaara is a barren desert country that produces scarcely any thing to sustain life; it has no towns, but the few inhabitants who know where to find springs of water, live in tents, and wander from one country to another, to find grass and water for their cattle. These people are of an olive complexion, their language is Arabic, and their religion mahometanism.

Biledulgerid lies on the north of Zaara; it is partly subject to the Turks, and partly to the king of Morocco. The climate is very hot, but generally esteemed whole-some. The soil is but indifferent, and the commodities are chiefly cattle, corn, dates, and indigo. The religion of the inhabitants is that of mahometanism.

Morocco has the Mediterranean sea on the north, and the Atlantic ocean on the west, and is about 500 miles long, and 200 broad. It is a fine country, consisting of mountains and fruitful plains. The soil produces corn and the richest fruits. They send several thousand camels, horses, and mules every year to Mecca and Negro-land: to Mecca they carry fine woollen goods, Morocco

skins, indigo, cochineal and ostrich feathers, bringing back silks, muslins, callicoes, coffee, and drugs. By the caravans to Negroland they send salt, silk, and woollen goods; taking gold, ivory, and negro slaves in return. The emperor is an absolute despotic tyrant, but he has no ships of war except some pyrratical vessels.

Barbary, comprehending Algiers, Tunis, Tripoli, and Barca, lies on the east of Morocco, and extends along the southern shore of the Mediterranean, as far as Egypt. The air of the country is temperate and healthful, the soil fruitful; its chief commodities are honey, wax, oil, fax, dates, almonds, hides, &c. The religion of this country, as well as Morocco, is mahometanism.



A Description of AMERICA.

America is situated between 80 degrees north, and 58 degrees south latitude, and between 35 and 145 degrees of west longitude. It is bounded on the east, west and south by the ocean; but on the north some have imagined it joined to the other continent; whilst others, finding a great current flowing in Hudson's bay from the east, suppose that it is divided from the north by a large river, which has a communication with the ocean on the other side of the continent. Others have imagined, that the north-east of Siberia joins to the north-west of the unknown continent of America, west of Hudson's bay; at that rate, instead of two continents, we have but one. If this supposition be true, it will account for the peopling of a country so far distant from that part of the world in which man was originally placed.

The principal part of America is at present under the dominion of Spain, Portugal, Great Britain, and France.

The Spanish dominions, which are by far the largest, comprehend Old and New Mexico, Florida, Terra Firma, Peru, Chile, Patagonia, Paragua, and la Plata, the coun-

try of the *Amazon*, and the Spanish islands, of which the most considerable are *Cuba*, *Hispaniola*, *Porto Rico*, and *Trinidad*.

The second division is subject to *Portugal*, and consists of the country of *Brasil*, extending from the river *Amazon*, under the equator, to the river *La Plata*, in 35 degrees south latitude, an extent of 3000 miles, but scarcely 200 miles broad.

The third grand division is subject to *Great Britain*, and lies along the eastern coast of *North America* from 31 to 51 degrees of north latitude, and lying in the following order from north to south. The *isle of Newfoundland*, *New Britain*, *Nova-Scotia*, or *New Scotland*, *New England*, *New York*, the two *Jerseys*, *Pensylvania*, *Maryland*, *Virginia*, *North Carolina*, *South Carolina*, *Georgia*, and the islands of *Jamaica*, *St. Christophers*, *Barbados*, &c.

The fourth division is claimed by the *French*, which, according to their maps, extends from the gulph of *Mexico* to the north of *Canada*, that is, from 28 to 52 degrees of north latitude, being 1500 miles from north to south, and very little less from east to west; these having the *British* dominions on the east, and *New Mexico* on the west, comprehending the greatest part of *Canada* and *Florida*, to which countries they have given the names of *New France* and *Louisiana*. The islands subject to *France* are those of *Cacn*, and part of the island of *Hispaniola*, *Martinico*, *Guadaloupe*, and several other of the *Caribbean* islands.

The *Dutch* are possessed of *Serriam* on the coast of *Guiana*, or *Caribbiana* in *South America*, and others on the north coast of *Terra Firma*, of which those of *Curaçow*, *Arabia*, and *Bonaire* are the chief, and from hence they carry on a clandestine trade with the coast of *Spanish America*.

Denmark is possessed of the island of *St. Thomas*, one of the *Caribbees*.

It would take up too much room to give a particular

account of all the countries on this vast continent. We shall therefore conclude our account of this part of the earth with some general observations.

America, as a continent, is divided into two parts, north and south, by the isthmus of Darien. This isthmus is a neck of land, of about 60 miles broad, and 300 in length, and filled with high mountains, on which the snow frequently lies, though it is only between 8 and 10 degrees of north latitude; the wind, which great part of the year blows from thence into the south sea, is cool and refreshing; while on the other side, the air of the Atlantic ocean is excessive hot. America enjoys all the advantages of the other three parts of the globe, being extremely fruitful, and having a fine air, except towards the north, where it is much colder than any part of Europe that lies under the same latitude. The air is filled with an infinite number of birds, and the rivers with fish, and (where uncultivated) the land with trees: so that the principal difficulty in making a new settlement consists in clearing the ground. The British and French settlements chiefly produce tobacco, sugar, pepper, corn, rice, timber, iron: and from hence are imported skins, furs, fish, and some drugs. The Spanish settlements produce cochineal, and other drugs, with great quantities of gold and silver: but it is said that the good gold mines of Mexico are almost exhausted. The Portuguese settlements at Brasil in South America at present produce vast quantities of gold, and diamonds. And the Dutch settlements at Surinam furnish them with tobacco and sugar.



B R I T I S H I S L A N D S.

THE British islands, or the English dominions, lie in the western ocean, on the north of France and west of Denmark, Germany and the Low Countries. Situated between the 8th and 20th, and 35 min. of lon. and between the 50th and 59th deg. of lat. Under this name

are comprehended four distinct parts, besides the lesser isles, viz. 1. England, 2. Wales, 3 Scotland, and, 4. Ireland.

I. ENGLAND.

The kingdom of England lies on the south of Scotland, and north of France, from which it is divided by the channel of a triangular form, encompassed on the three sides with sea. In length from north to south, about 360 miles, and in breadth from east to west about 300, containing about 27 millions of acres.

The inhabitants are mostly of the reformed religion, taught here in its purity (the divisions I forbear to mention) some few are papists: their language is a branch of the Teutonic, chiefly composed of old Saxon, Latin and French. Their chief commodities are corn, cattle, tin, copper, lead, iron, timber, coals, abundance of wool, fluff, linen, hides, tallow, butter, cheese, beer, &c. It is divided into six circuits, viz.

1. Northern circuit, 2. Midland circuit, 3. Oxford circuit, 4. Norfolk circuit, 5. Home circuit, 6. Western circuit.

Rivers of principal note are four, viz. 1. Thames, 2. Severn, 3. Trent, and, 4. Tweed.

Mountains of great account are three, viz. Ingleborough, 2. Pendle, and, 3. Pennegent.

Archbishopsricks 2, Bishopsricks 20, Universities 2.

An Account of the several Counties of England and Wales, with their Produce, Market-Towns, and Market-Days.

Note, on stands for Monday, tu for Tuesday, w for Wednesday for Thursday, f for Friday, and s for Saturday.

Bedfordshire.

AN in a county, in Lincoln diocese, 73 miles in circumference, is a fruitful country, well stored with



A New Map of
ENGLAND
*from the latest
 Observations*

THE GERMAN
 OR
 NORTH SEA





corn and cattle, especially in the north parts. It produces barley and wheat as good, if not the best in England.

Market-Towns.

Bedford, the shire town, Thurf and Sat.

Dunstable w

Shefford f

Woodbourn f

Biggleswade th

Ampton Hill th

Potton f

Leighton m

Tuddington f

Luton m

Berkshire.

An inland county in the diocese of Salisbury, and a pleasant country, 120 miles round, where the air is good and the soil fruitful. It yields plenty of corn, cattle, wild fowl, wool, and wood, especially oak.

Market-Towns.

Reading, the shire town, Saturday.

Abingdon m and f

Newbury th

Windsor f

Faringdon tu

Wallingford tu and f

Wantage f

Maidenhead w

East-Illey w

Hungerford w

Oakingham th

Buckinghamshire, or Bucks.

Another inland county in Lincoln diocese, 138 miles in circuit, is very plentiful both in corn and pasture, particularly the famous Vale of Aylesbury, which feeds an infinite number of sheep, yielding excellent wool. The Tam^s, Ouse, and Coln are its principal rivers.

Market-Towns.

Buckingham, the chief, Saturday.

Aylesbury f

Beaconsfield th

Hig^s Wickham f

Chesham w



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Market-Towns.

Buckingham, the chief, Saturday.

Aylesbury f

Beaconsfield th

High Wickham f

Chesham w

Colbrook w
 Stony Stratford f
 Oundle m
 Marlow f
 Wendover th

Risborough f
 Amerham m
 Newport Pagnel f
 Ivingho f
 Winslow th

Cambridgeshire.

An inland county, in the diocese of Ely, 130 miles in circumference, abounds in corn and pasture, fish, wild-fowl and fassron. It is true, the north part of it, called the Isle of Ely, is full of marshes, and subject to small inundations, which makes it unhealthy, and yield but little corn; but this defect is richly supplied with plenty of cattle, fish, and wild-fowl. Cambridge is remarkable for a famous university, containing 12 colleges and 4 halls, and are as followeth:

Peter house
 Corpus Christi, or
 Bennet college
 Gonville and Caius
 King's college
 Queen's college
 Jesus's college
 Christ's college
 St. John's college
 Magdalane college
 Trinity college
 Emanuel college
 Sidney Sussex college

Founded in

1284, by Hugh de Balsam,
 bishop of Ely.
 1346, by Henry of Monmouth,
 duke of Lancaster.
 1348, and so named from its
 founders.
 1441, by King Henry VI.
 1448, by Margaret, wife to
 Henry VI.
 1497, by L. L. D. Bp of Ely.
 1506, by Margaret countess of
 Richmond, mother of H. VII
 1506, by the same.
 1542, by E. Stafford, the last D.
 of Buckingham of that name.
 1546, by King Henry VIII.
 1584, by Sir Walter Mildman,
 chancellor of the exchequer.
 1598, by Frances Sidney,
 countess of Sussex.

H A L L S.

Clare hall	} E	Founded	1343, by Richard Badew.
Pembroke hall			1347, by Mary de St. Paul, counts of Pembroke
Trinity hall			1353, by William Bateman bp. of Norwich.
Katherine hall			1459, by Robert Wood, chancellor of the university.

Market-Towns.

Cambridge, the chief, Friday.

Ely tu	Merche f
Caxton tu	Roydon w
Newmarket tu	Wisbich f
Linton th	Soham f

Cheshire, or County of Chester.

A maritime county in the diocese of Chester, 112 miles round. It yields more pasture than corn, and is for the most part level: its greatest hills being those that part it from Stafford and Derbyshire. There are in it several forests, particularly Delamere and Macclesfield forests: and so great a number of parks, that few gentlemen's country seats are without one.

There are also many heaths, in which both sheep and horses feed; and some mossy plots, which make good turf to burn.

Its principal rivers are the Dee, which waters the S W. parts, the Weaver running through the middle, and the Mersey northward.

Cheese and salt are the chief product of this county, and both in great repute all over England.

Market-Towns.

Chester, the capital, Wednesday and Saturday.
 Nantwich f Stockport f

Middlewich f	Sandwich th
Norwich f	Atringham tu
Macclesfield m	Maccas m
Congleton f	Knottford f
Fordham w	

Cornwall.

A maritime county in the diocese of Exeter, is the most western county of England, surrounded with the sea on the north, south and west, and parted from Devonshire, eastward by the Tamer, all but a slip of land; so that it is a perfect peninsula, 150 miles in circumference: but is none of the most fruitful parts of England. It is true, its valleys are full of corn and pasture, and the hills famous for their tin and copper mines; and it abounds in wild fowl, and the seas thereof in fish. It yields also plenty of samphire, eringo, fine slate and marble.

Market-Towns.

Launceston the chief, Saturday.

Lekeard f	Truro w and f	Hellon f
Leffwithiel f	Bodwin f	Salvash tu
Cachelford f	Foway f	St Colombe th
Wethlow, or	Kellington w	Market-Jew th
Port Pigham f	St. German f	Padflow f
Grampond f	Newport f	Penzance th
Fallow f	Tregony f	Falmouth th
Penryn w, f, and f	St. Ives w and f	Stratton tu

Cumberland.

A maritime county in the north of England, and in the diocese of Chester and Carlisle, is bounded northward with Scotland, and westward with the Irish sea, and is 168 miles round. It yields plenty of corn, pasture, wild fowl, fish, coal pits, and mines of copper and lead.

Market-Towns.

Carlisle, the chief, Saturday.

Cockermouth tu	Alston Moor f
Whitehaven th	Ireby th
Kelwick f	Kirk Oswald th
Penrith tu	Longtown th
Brampton tu	Ravenglass f
Holm f	Wigton tu
Egremont f	

Derbyshire.

An inland county northward in the diocese of Litchfield and Coventry, 130 miles in circuit, is a plentiful country of pasture, corn and wood. Here are also quarries of free stone, marble, mill, lime, whet stones, coal, lead and iron mines, crystal and alabaster.

The river Darwent, which glides through this county from north to south, and falls into the Trent, divides it into two parts, east and west.

Market-Towns.

Derby, the shire town, Saturday.

Chelsterfield f	Alsbourn f
Workefworth tu	Bakewell m
Bolsoever f	Dronsfeld th
Alfreton m	Tiddleswall w

Devonshire.

A maritime county in the diocese of Exeter, 200 miles in circumference. It lies in the west of England, borders upon Cornwall, and is watered on two sides with the sea, viz. north and south. The air is very good, and the soil for the most part fruitful; but there are both hills and woods. This county abounds chiefly in corn, pasture, wool, wild fowl and sea fish. There are also tin

and lead mines. Its chief manufactures are kerseys, sergees and lace.

Market-Towns.

Exeter, the chief, Wednesday and Saturday.

Barnstaple f	Topsham f	Dodbrook w
Dartmouth f	Axminster f	Hartland f
Honiton f	Autrey tu	Hatherley tu
Oakhampton f	Bampton f	Heldworthy f
Plimpton f	Bow f	Kingsbridge f
Tavistock f	Chimleigh th	Kirton th
Tiverton tu	Cudeigh f	Modbury th
Plymouth m and tu	Columpton f	Moreton f
Totneis f	Combarnia f	Newton th
Ashburton f	Culliton th	
Biddesford tu	Torrington f	

Dorsetshire.

A maritime county upon the Channel, lies east of Devonshire, in the diocese of Bristol, 150 miles in compass. It is a pleasant and fruitful county, yielding plenty of corn, pasture, wild fowl and fish; also abundance of hemp, and quarries of free stone and marble.

Market-Towns.

Dorchester, the capital, Saturday,

Weymouth tu and f	Wareham f	Cerne w
Malcomb-Regis tu and f	Corfe Castle tu	Frampton th
Bridport f	Cranborn w	Sherborn tu and f
Bere w	Blandford f	Milton m
Pool m and tu	Sturminster th	Wimbourn f
Shaftsbury f	Abbotsbury th	Stalbridge f

Durham.

A maritime northern county, commonly named the Bishoprick of Durham, 107 miles in circuit. The air is sharp, and the soil not very fruitful. The east side is the

best, the south is full of marbles, and the west full of rocks. The greatest advantage of this county consists in coal, iron and lead mines.

Market-Towns.

Durham, the capital, Saturday.	
Aukland th	Hartlepool m.
Stockton f	Sainthorp tu
Sunderland f	Bernard Castle w
Darlington m	
Effer.	

A maritime county in the east part of England, and the diocese of London, called Effer from the East Saxons, by whom it was inhabited. It is about 146 miles in compass. Here the air is temperate, but near the sea and Thames very moist and aguish. The soil yields plenty of corn, cattle and wool. Here is also abundance of fish and wild fowl. In the north parts, the soil is so rank, that after three crops of saffron, it yields good barley for near 20 years together, without sowing.

This county is watered by a great number of rivers, besides the Thames, that parts it from Kent, the Stour from Suffolk, the Lea from Middlesex, and the little Stour from Hertfordshire; here is the Coln, Chelmer, Crouch, Roding, and many other rivers, all yielding plenty and variety of fish.

Market-Towns.

Colechester, the county town, Saturday.		
Harwich tu	Hatfield f	Rumford w
Barking f	Witham tu	Ingershoe w
Malden f	Chelmsford f	Walden f
Billerica tu	Burnwood th	Dunmore f
Cogeshall f	Greys th	Halstead f
Hornden f	Raleigh f	Waltham Abbey
Manningtree tu	Thaxted f	tu
Epping th and f	Braintree w	Sudbury f

Gloucestershire.

An inland county in the diocese of Gloucester, 138 miles round, is a fine, fruitful country. The hills on the east side, called Cotswold, are covered with flocks of sheep, whose wool is called the finest in Britain. The middle parts are level, and watered by the Severn, which contributes much to their fertility. Westward is the ancient forest of Dean, formerly 20 miles long, but now much less; the iron mines having consumed a great part of it.

Besides the Severn, which crosses this county from north to south, here is the Avon that parts it from Somersetshire, the Wye that partly divides it from Monmouthshire, besides the Stroud and the Isis; all very fishy rivers: the Severn yielding great plenty of salmon.

Formerly the vales of this county were full of vineyards, which have been since turned into orchards, yielding plenty of apples for cyder.

In short, this county abounds in corn, wool, wood, iron, cyder and salmon. Among its manufactures, the woollen is most considerable. Here is also made a great quantity of good cheese.

Market-Towns.

Gloucester, the shire town, Wednesday and Saturday.	
Cirencester m and f	Fairford th
Dursley th	Tewsbury f
Stroud f	Camden w
Newent f	Cheltenham th
Stowth	Sudbury th
Thornbury f	Tedbury w
Marlfield tu	Winchcomb f
Merton f	Dean m

Hampshire, Hants, or Southampton.

This is a maritime county, on St. George's channel, between Sussex East and Dorset West, in the diocese of

Winchester, 100 miles in circuit. It is a pleasant and fruitful country, yielding plenty of corn, grafs, wool, wood and iron; and particularly noted for the excellency of its honey and bacon.

On the west side it is watered by the Avon and Stour, which meet near the sea; and on the east by the Test and the Itchin, that join near Southampton.

Market-Towns.

Southampton, the shire town, Tuesday and Friday.	
Winchester w and f	Farnham th
Portsmouth th and f	Basingstok w
Andover f	Kingflear tu
Linnington f	Ringwood w
Petersfield f	Odiham f
Stockbridge th	Rumsey f
Whitechurch f	Waltham tu
Newport w and f	Alston th
Alton f	

Hartfordshire.

An inland county, in the diocese of London and Lincoln, 130 miles round, is a fine delightful place; and has more gentlemen's parks than any other county. Here the inhabitants breathe a wholesome air, and the soil yields plenty of corn, grafs and wood. The Lea and Coln are its principal rivers; wheat, barley, and malt, its chief commodities, and, with Bedfordshire, the best in Great-Britain. The plowmen and farmers are outdone by none.

Market-Towns.

Hartford, the county town, Saturday.	
St. Albans f	Baldock th
Barnet m	Hitchin th
Ware tu	Hodson th
Barkhamstead m	Stevenage f

Richmanſworth, f	Thring f
Hatfield th	Watford m
Buntingford m	Hemphread th
Standon f	

Herefordſhire.

An inland county in Hereford dioceſe, towards Wales, in circuit 120 miles, abounds in all things neceſſary for life, particularly corn, wool, ſalmon and cyder. Its wool and cyder are counted the beſt in Great Britain; and yet their cyder is made of the red ſtreak apple, ſcarce eatable, but growing no where ſo well as in this county.

Market-Towns.

Hereford, the capital, Wednesday, Friday and Saturday.	
Lempſter f	Pembridge tu
Weobly th	Ledbury tu
Kyniton w	Bromyard m
Roſs th	

Huntingdonſhire.

An inland county in the dioceſe of Lincoln, by ſome nick-named Wilſlowſhire, for its plenty of willow; is 67 miles round, was formerly a very woody county, and conſequently moſt proper for hunting, whence the name of Huntingdonſhire. Now it is open and marſhy on the N. E. but plentiful of paſture. In general it is a pleaſant county, diverſified with hills, and yielding plenty of corn and cattle. Its principal river is the Ouse, now made navigable, whole beautiful meadows, with ſuch multitudes of cattle upon them, are well worth ſeeing.

Market-Towns.

Huntingdon, the chief, Saturday.	
St. Ives m	Ramſey w
Kimbleton f	Yarley tu
St. Neots th	

Kent.

A maritime county, at the east part of the channel in the diocese of Canterbury and Rochester, is 160 miles in compass. According to the different nature of its soil, it is divided into three parts, viz. the Downs, which have health without wealth; the Marishy Parts, that have wealth without health; and the Middle, that has health and wealth. One part of this county is wood, another corn, and the third pasture. Its soil yields plenty of wheat in some places, in some barley, and others excellent cherries and pippins.

Market-Towns.

Canterbury (famous for its cathedral) is the capital, Wednesday and Saturday.

Rochester f	Granbrook f	Sevenoak f
Maidstone th	Gray w	Tenterden f
Dover w and f	Dartford f	Malling f
Sandwich w and f	Eltham m	Milton f
Romney th	Faversham w and f	Tunbridge f
Smarden f	Folkstone th	Westram w
Hithe, f	Gravesend w and f	Woolwich f
Bromley th	Linham tu	Wrotham tu
Wye th	Lidd th	Ashford f

Suffex.

A maritime county upon the channel, with Kent on the E. and Hampshire W. in Chichester diocese, is, 158 miles round. Its downs, near the sea, are charming, and its valleys (called the Wild of Suffex) very plentiful, of oats especially. The forests are barren, but the east parts yield abundance of iron, which has occasioned a vast consumption of wood. Here the roads are so deep in winter, that in some places, coaches must be drawn with oxen. This county is well watered, but with rivers of no long course. Arun is the principal. A Suffex carp, an

Arundel mullet, an Amerly trout, and a Chichester lobster are much admired. And so is the White-ear, a bird as good as a French Ortolon. Its principal manufactures are iron, guns, and glass.

Market-Towns.

Chichester, the chief, Wednesday, and Saturday.	
East Grinstead th	Petworth w
Hastings w and f	Steving w
Rye w and f	Battle th
Arundel w and f	Hailham f
Horsham f	Bright-Hemston tu
Midhurst th	Cuckfield f
Lewes f	

Lancashire.

A maritime county in the diocese of Chester, bounded with the Irish sea, is 170 miles in circuit; of all maritime counties the least subject to fogs, and the inhabitants generally strong bodied. The soil is partly upon the level, yielding good wheat and barley, and the bottom of the hills excellent oats. But the hilly parts eastward are generally stoney and barren.

Market-Towns.

Lancaster, the county town, Saturday.		
Clithero f	Blackbourn m	Hastingdon w
Liverpool f	Cartmel m	Garstang th
Preston w, f and f	Coln w	Kirkham tu
Wigan m and f	Bury th	Hornby m
Manchester f	Charley tu	Howhead m
Warrington w	Balton f	Ormskirk tu
Ulverston th	Roachdale tu	Poulton m
Bolton m	Hawthhead m	Preston tu

Leicestershire.

An inland county, in the diocese of Lincoln, is 96 miles

in circuit, enjoys a good air, and abounds in corn and pasture, and is particularly famous for pease and beans. Pasture land is so good, that here are many farms let between 500 and 2000 *l.* a year. The sheep and horses which are sent in such numbers to London, are undoubtedly the largest in England. It yields plenty of coal. Its principal rivers are the Stour, Reer, and Swift.

Market-Towns.

Leicester, the county town, Monday and Saturday.

Abby de la Zouch *f* Lutterworth *th*

Beisworth *w* Longborough *th*

Harborough *tu* Milton *tu*

Hallaton *th* Mountforrel *m*

Hinkley *m* Wakhaw *w* and *th*

Baldon *f*

Lincolnshire.

A maritime county, in the diocese of Lincoln, bounded east with the German sea, is 180 miles in circuit. The north and west parts are the most fruitful; the east and south marshy, yet abound in fish and wild fowl.

Market-Towns.

Lincoln is the capital, Saturday.

Boston *w* and *f* Bimbrook *w* Dunnington *f*

Grantham *f* Alford *tu* Falkingham *th*

Stamford *m* and *f* Burton *m* Holbeck *th*

Griusby *w* Barton *m* Horncastle *f*

Grainsborough *tu* Kirton *th* Louth *w* and *f*

Bullingbrook *tu* Bourn *f* Sleaford *m*

Spalding *tu* Tattershall *f* Spilsby *m*

Stanton *m* Wainfleet *f* Salsby *m*

Burgh *th*

Middlesex.

An inland county, in the diocese of London, the me-

ropolis of Great Britain, is 81 miles in circumference. It has a sweet wholesome air, and fertile soil, much improved by the compost (or dung) of London. The Thames that waters it, and separates from Surrey, is the principal river.

Market-Towns.

LONDON, the metropolis, hath markets for every day in the week.

Westminster m, w and f	Uxbridge th
Brentford th	Enfeld f
Stains f	Edgworth th

Monmouthshire.

A county in the diocese of Landaff, formerly Welch, but now reckoned among the counties of England. It lies westward on the borders of Wales, watered on the south by the Severn, which falls there into the sea. It is 80 miles in circuit; woody and hilly, but very plentiful; to which the rivers Ulk and Wye, Monnow, and Rumney, contribute very much. The Ulk and Wye yield plenty of salmon and trout.

Market-Towns.

Monmouth, the principal, Saturday.

Abergavenny tu	Chepstow f	Pontpool f
Caerleon tu	Newport f	Ulk m and f

Norfolk.

A maritime county, in Norwich diocese, bounded on the north and east with the German sea, is 140 miles in circumference. The soil is in some places fat, in some sandy, and in others heavy. Towards the sea it is level, and yields plenty of corn. In other parts you have woods and heaths. Those feed abundance of cattle, and these infinite numbers of sheep and rabbits. Its principal rivers are the Ouse, Waveney, Yare, and Thyrn: Its common

dities, corn, wool, honey, and saffron, the best growing near Walsingham : Its manufactures fluffs, and stockings. The neighbouring sea swarms with herring. Jet and amber are sometimes found upon the coast. From Norwich to Yarmouth, about 30 miles, is all rich meadow ; upon which most of the Scots runts graze, till they are fat, and then make excellent beef.

Market-Towns.

Norwich, the capital, Wednesday, Friday and Saturday.		
Lynn tu and f	Downham f	Comer f
Yarmouth f	Walham w	Diss f
Thetford f	Windham f	Harleston w
Attleborough th	Ropeham f	Hertling tu
Alham f	Soatham f	Holt f
Buckingham f	Fulkenham th	Wolton w
Burnham f	Foulham th	Worsted f
Dearham f	Hingham f	Seby every second m
Walsingham f	Cafton tu	Swatham f

Northamptonshire.

An inland county, in Peterborough diocese, 120 miles in circuit, is one of the best counties in England, has a breathful air, rich, fruitful soil, abundance of inhabitants, and claims the honour of having more noblemen's seats than any other county. It abounds in corn and cattle; wood, and salt-petre. Its principal rivers are the Ouse, the Welland, and the Nen, all rising in this county.

Market-Towns.

Northampton, the shire town, Saturday.	
Peterborough f	Rothwell m
Brackley w	Kittering f
Daventry w	Wellingborough w
Oundle f	Trapstone tu
Fowcetter f	Cliff tu

Northumberland.

A maritime county, in Durham diocese, and bordering upon Scotland, is 160 miles in circumference, bounded by the sea eastward, and on the west, by the impassable mountains of Stainmore. It has a keen piercing air; is not the most fruitful, but some parts of it are very good, & specially towards the sea. Here are several lead and coal mines; a multitude of monumental antiquities, with wild fowl and fish in abundance.

Market-Towns.

Newcastle, the chief town, Saturday.	
Berwick f	Hexham tu
Alnwick f	Wooler th
Morpeth w	Belford tu
Rothbury th	Warkworth th

Nottinghamshire.

An inland county in the diocese of York, 90 miles in circuit, has a wholesome air, and different sorts of soil; for the south east parts are fertile, the western woody, and yield abundance of pit coal. Here is the famous forest of Sherwood. The Trent and the Idle are its prime rivers. The first parts this county from Lincolnshire.

Market-Towns.

Nottingham, the county town, Wed. Fr. and Sat.	
Newark w	Bingham th
Redford w	Worlop w
Mansfield th	Tuxford in the
Southwell f	Clay na

Oxfordshire.

An inland county in Oxford diocese, 130 miles round, has a sweet healthful air, a good soil for corn and fruit,

and rich in pasture. Besides the Thames, composed of Tame and Isis, that waters this county, here is the Cherwell, Windrush, Evenlode, &c. Oxford is remarkable for a famous university, containing 20 colleges, and 5 halls, which are as follows.

University college	872. by the Saxon K. Alfred
Baliol	1262 by John Baliol, K. of Scotland
Merton	1274. by Walter de Merton, Bp. of Rochester
Exeter	1316. by Walter Stapleton, Bp. of Exeter
Oriel	1325. by K. Edward I.
Queen's	1340. by R. Eglesford, B. D.
New	1375. by William of Wickham, Bp. of Winchester
Lincoln	1427. by Richard Fleeming and Thomas Rotherham, Bps. of Lincoln
All Souls	1437 by H. Chicheley, Abp. of Canterbury
Magdalen	1459. by William Wainfleet, Bp. of Winchester
Brazen Nose	1511. by William Smith, Bp. of Lincoln, and Sir Richard Shutton, Knt.
Corpus Christi	1516. by Richard Fox, Bp. of Winchester
Christ Church	1549. by K. Henry VIII.
Trinity	1555. by Sir T. Pope
St. John's	1557. by Sir Thomas White, Ld. Mayor of London
Jesus	1571. by Q. Elizabeth
Wadham	1609. by N. Wadham, Esq.
Pembroke	1620. by T. Telsdale, Esq. and R. Whitechurch, B. D.
Worcester	1700. by Sir T. Cooke
Hartford	1740. by Dr. Newton

Founded in

HALLS.

St. Edmund's, belonging to Queen's college.

St. Alban's

Merton

St. Mary's

Oriel

New Inn

New

Magdalen

Magdalen.

Market-Towns.

Oxford, the capital city, Wed. and Sat.

Woodstock tu

Whitney th

Bicester f

Banbury tu

Watlington f

Bampton w

Banford f

Crippington Norton f

Taine tu

Henley th

Deddington f

Charbury f

Rutlandshire.

An inland county, in Peterborough diocese, 40 miles in circuit. It yields plenty of corn and cattle, and feeds great numbers of sheep; the wool whereof (like the soil) is reddish: from whence this county is called Rutland; that is Red land. Here is also plenty of wood, and several rivers; the principal of which are the Welland and Wash.

Market-Towns.

Oakhampton f

Uppingham w

Shropshire.

An inland county, in the diocese of Hereford, and Litchfield, bordering upon Wales, is, 135 miles in compass. Here the inhabitants breathe a good air, and have the benefit of a true fine soil, though hilly on the south and west. It yields plenty of wheat and barley, pit-coal, wood, and iron. The rivers are the Rhoden, Teme, and Severn; which last runs through the county.

Market-Towns.

Shrewsbury, the county town, Wed. Th. Sat.

Bilboscalfie f

Elisfmore tu

Wen th

Bridgnorth f	Whitchurch f	Church-stretton tu
Ludlow m	Newport f	Oswestry m
Wenlock m	Drayton w	Shipton tu

Somersetshire.

A maritime county in the west of England, and diocese of Bath and Wells, 240 miles round, is one of the largest counties; plentiful of corn and pasture, most pleasant in the summer, though but indifferent for travellers in winter. Whence the proverb, Bad for the rider, but good for the abider. Beside the Severn, which runs into the sea, there is the Avon, Frome, Parret, Tor, and Tone. The oren in this county are as large as those in Lincolnshire, and the meat much preferable. This county yields also lead and copper, lapis calaminaris, chrysol that comes near a diamond, and wood for dyers. Its chief manufactures are woollen cloth and serges. At Cheddar they make the best and the biggest cheeses in England, as good as the Parmesan. The whole milk of the parish goes for the making of it, by agreement among the parishioners.

Market-Towns.

Bristol, the capital, Wed. and Sat.

Bath w and f	Axbridge th	Ranadham th
Wells w and f	Sheptonmallet f	Crookhorn f
Bridgwater th	Somerton m	Dulverton f
Llcheester w	Wellington tu	Glastenbury tu
Taunton w and f	Bruton f	Charad m
Wincanton w	Ilminster f	Longport f
Watchet f	Dunstar f	Poultford tu
Southpacterton th	Wivelcomb tu	Wilton tu

Staffordshire.

An inland county, in the diocese of Litchfield and Coventry, 141 miles in circumference; the air is sharp and healthful, the soil diverse: for northward it is hilly and barren, southward it yields plenty of corn and grass, in

ron and pit coal. The inland parts are level, but woody. Here is also good stone, marble, and alabaster.

Beside the Trent that waters northward, there is the Dove, Churner, Blithe, Line, Sow, and other small rivers, which make the neighbouring lands very fruitful, and the sheep that feed upon them some of the best mutton in England. Here are also some salt springs, little inferior to those in Cheshire.

Market-Towns.

Stafford, the county town, Sat.

Lichfield tu and f	Ecclethall f	Betley tu
Newcastle m	Ridgley tu	Locke w
Burton th	Browly tu	Tudbury tu
Penbridge tu	Brewood tu	Stow tu
Blunzetar w	Walshall tu	Wolverhampton w

Suffolk.

A maritime county, south of Norfolk, and in Norwich diocese, 14 miles in compass. The air is wholesome, but the soil diverse: sandy and full of heaths towards the sea, but yielding plenty of rye, pease, and hemp, and feeding vast multitudes of sheep. Further from the sea are Woodlands, otherwise called High Suffolk, which feed abundance of cattle. But the most fruitful parts are about Edmondsbury. There is a great many parks in this county. Its principal rivers are the Stour, Breton, Deben, Orwel and Blith. Here is abundance of cheese made to lerable good, but Suffolk butter is counted excellent. Its manufactures are woollen and linen cloth.

Market-Towns.

Ipswich, the principal, Wed. Frid. and Sat.

Dunwich f	Stowmarket th	Lovenham tu
Orford m	Newmarket th	Mildenhall f
Alborough f	Beccles f	Biddestone w
Sudbury f	Bury w	Clare f

Eye f	Hadley m	Bungay th
Deddington f	Framlington f	Holeworth tu
Ixworth f	Leffoe w	Mendelham tu
Nedham w	Neyland f	Woodbridge w

Surrey.

An inland county, which the Thames parts from Middlesex, 112 miles in circuit, in the diocese of Winchester. It is observed that the skirts of this county are the most fruitful; however, in point of health, the middle parts have the advantage; both for the pleasure they yield by their Downs in hunting, and horse races. Besides the Thames, here is the Wye, which runs thro' Guilford, the Mole thro' Dorking, and the Wandie, all three into the Thames, the first two near Hampton-Court, and the last near Richmond.

Market-Towns.

Guilford, the county town, Saturday.	
Rigate tu	Kingston f
Southwark w and f	Croydon f
Dorking th	Farnham th
Warwickshire.	

An inland county, in the diocese of Worcester, Lichfield and Coventry, is 145 miles in circuit, enjoys a good air, and plentiful soil, especially on the south, northward it is woody. Among its rivers Avon is the chief, which runs through the middle of it, and falls at last into the Severn. Its chief commodity is cheese.

Market-Towns.

Warwick, the county town, Saturday.	
Coventry f	Birmingham th
Stratford th	Colehill w
Atherstone tu	Henly m
Alcester tu	Kyneton tu
	Nuneaton f
	Rugby f
	Southam m
	Suttoncolefield m

Westmoreland.

Westmoreland, in the north west of England, partly in the diocese of Chester, and partly in that of Carlisle, is 120 miles in compass. It is hilly and marshy, but not without fruitful spots of ground, especially southward. But in general it is certainly the most barren and wild county in England. The Eden, Ken, Loh and Eamon, are the principal rivers. Ulles water and Winander mere, are two lakes, the first bordering upon Cumberland, and the latter upon Lancashire.

Market-Towns.

Appleby, the county town, Saturday.

Kendal f	Kirkby-Overton m
Lingdale th	Orton f
Burton m	Brough w
Ambleside w	

Wiltshire.

An inland county in Salisbury diocese, 140 miles round, is a heathful county. Northward it is somewhat hilly and woody; but southward it is pretty level. In the middle of it is Salisbury plain, noted for its large extent, and for feeding innumerable flocks of sheep. Its principal rivers are the Isis, Kennet, Avon, Willy, and Nadder. It has the chief manufacture of wool: The best broad cloths, both white and dyed, are made all over this county.

Market-Towns.

Salisbury, the capital, Wed. and Sat.

Hindon th	Crickdale f	Warmminster f
Chippingham f	Devizes th	Bradford m
Wilton w	Downton f	Amsbury f
Marlborough f	Wesbury f	Auburn tu
Malisbury f	Highworth w	Swindon m
Leavington w	Calne tu	Trowbridge f
Wootton-bassett th		

Worcestershire.

An inland county in the diocese of Worcester, 150 miles in compass; yields plenty of corn, pasture, cattle, fish and fruit. The vale of Evelham is noted especially for its great fertility. Here are also several salt springs. Its rivers, the Severn, Avon, Salwarp, &c.

Market-Towns.

Worcester, the capital, Wed. Frid. and Sat.

Evelham m	Kidderminster th	Tidbury tu
Bewdley f	Bromsgrove tu	Upton th
Droitwich f	Parlfore tu	Shipton f
Stowerbridge f		

Yorkshire.

A northern maritime county, in York diocese, is 320 miles round. It is divided into three parts, the N. E. and W. Ridings, which last is the largest and most populous. It is generally a most fruitful country, yielding plenty of corn, cattle, fish, and wild fowl. Here are also abundance of fine horses, lime-stone, jet and allum. Sureby is noted for its goats, Sheffield for iron, Richmondshire for its lead, copper, and pit coal. Its principal rivers are the Humber, Aire, Calder, Don, Derwent, Nidd, Ouse, Swall, Youre, Warf and Tees. This county is about the size of the dukedom of Wirtemberg in Germany, and bigger than all the seven United Provinces of Holland. The manufactures here are cloths, which of late are carried on to great perfection.

Market-Towns.

York, the chief town, Tuesd. and Sat.

Kingston upon Hull	Halifax th	Patlington f
tu and f	Leeds tu and f	Hornsey f
Knaresborough w	Bradford th	Burlington f
Rippon th	Aberford w.	Scarborough th
Boroughbridge f	Sherborn f	Thirike m
B b		

Pontefract f	S:by m	Northal:erton w
Sheffield tu	Tadcaster th	Richmond f
Rotheram m	Wetherby th	Whitby f
Doncaster f	Shipton f	Gisborough m
Tickhill f	Ripely f	Pickering m
Bawtry f	Beverley w and f	Yarum th
Burness w	Heydon f	Stockl:ay f
Wakefield th	Howdon f	Bedball tu
Huthersfield th	Wighton w	Malham tu
Snaith f	Milton tu and f	



II. W A L E S.

The principality of Wales, lies on the W. of England, (commonly reckoned a part thereof) bordering on the Irish sea, and parted by the river Dee, and a line drawn to the river Wye; in length from N. to S. about 124 miles, in breadth from E. to W. about 100 miles.

It was first conquered by the Romans (about the same time that England was) and afterwards had a king of its own, and sometimes two, one of North and the other of South Wales; till at last the kings of England subdued them, and brought them to their power; so that it is at present under the kings of England, whose eldest son has the title of prince of Wales.

The inhabitants, as in the rest of England, are most Protestants, their language very harsh, being the same with the old British or Gallic, but the English is also much used among them; their chief commodities are cattle, butter, cheese, Welsh-fizes, cottons, bays, herrings, hides, calves skins, honey, wax, and other such like. It is divided into two parts, which are;

1. North Wales, the seat of the old Ordovices, since the kingdom of Guinedth and part of Powlland; it contains six counties, which are,

1 Flintshire	}	Chief Towns	{	St. Asaph and Flint
2 Denbighshire				Denbigh
3 Isle of Anglesey				Beaumaris
4 Caernarvonshire				Caernarvon and Bangor
5 Merionethshire				Harlech
6 Montgomeryshire				Montgomery and Welshpool

2. South Wales, the seat of the old Dinewz, and part of the Silures, since the kingdom of Debenbarch, and part of Powiiland; it contains six counties, viz.

1 Cardiganshire	}	Chief Towns	{	Cardigan
2 Radnorshire				New Radnor
3 Pembrokeshire				Pembroke and St. Davids
4 Caermarthenshire				Caermarthen
5 Brecknockshire				Brecknock
6 Glamorganshire				Cardiff and Llanstiff

Chief town of the whole is Pembroke.

Rivers of chief note are two, Wye and Dec.

Principal mountains are those called Snowdown hills and Plinlimmon.

Archbishopsricks 0, Bishopsricks 4, Universities 0.



III. S C O T L A N D.

THE kingdom of Scotland is the rest of the island of Albion or Great Britain, and lies on the north of England, from which it is parted by the rivers Tweed and Solway, and the Cheviot hills; in length from Dungenby head to the S. of Galloway 250 miles, in breadth from Aberdeen to the isle of Mull 150 miles.

The inhabitants are most Protestants, and those chiefly Presbyterians; their language is in the S. parts a corrupt English, and on the N and W. parts a dialect of the Irish; their chief commodities are most sorts of fish in great abundance, much linnen cloth and tallow, vast numbers of cattle and hides; as also excellent honey, lead ore, iron, train oil, coarse cloths, frizrs, &c.

It is divided into two } S. the Firth { } Edinburgh.
 classes, viz. } N. the Firth { } Aberdeen.

North comprehends		South comprehends	
Galloway —	—	Kirkcudbright —	—
Nithsdale —	—	Dumfries —	—
Annandale —	—	Annan —	—
Eisdale with Eufdale	—	Hermitage —	—
Liddisdale —	—	Jedburgh —	—
Tiviotdale —	—	Duns —	—
The Mers —	—	Laude —	—
Lauderdale —	—	Peebles —	—
Tweedale —	—	Glasgow —	—
Clythdale —	—	Ayr —	—
Kyle —	—	Burgenny —	—
Carriack —	—	Edinburgh —	—
Lothian —	—	Idem —	—
Stirling —	—	Idem —	—
Renfrew —	—	Irvine —	—
Cunningham —	—	Rothelay —	—
Isles of { Bute Arnan	—	Kilzeran —	—
Peninsula of Cantyr	—		
Chief Towns			
Fife —	—	St. Andrews —	—
Menteith —	—	Dumblain —	—
Lennox —	—	Dumbarton —	—
Argyle —	—	Inverary —	—
Perth —	—	Idem —	—
Strathern —	—	Abernethy —	—
Broadalbine —	—	—	—
Lorn —	—	Dunflassage —	—
Merns —	—	Bervy —	—
Angus —	—	Dundee —	—
Gauy —	—	Blair —	—
Achol —	—	Aberdeen —	—
Mar —	—	Ruthven —	—
Badenough —	—	Inverlochy —	—
Lochaber —	—		

N. comprehends		
Buchan	{	Peterhead
Bamfe		
Murray		
Rofs		
Sutherland		
Strathnaver	{	Chief Towns
Gairness		
	{	
	idem	} E to W
	Elgin	
	Tain	} S to N
	Dornock	
	Strathry	
	Wick, lying N. E. of Strath-	

These are the various divisions of Scotland, according to the best maps, and the manner how they are found. But since that kingdom is ordinarily divided into sheriffdoms, stewards, bailiaries, and one constabulary, we shall also consider it in that respect; and seeing each of these sheriffdoms and stewards, &c. comprehend either a part, or one or more of the said divisions, we shall here subjoin all the sheriffdoms and stewards, &c. of the whole kingdom, and annex to each of them their whole content, whether more or less. Therefore,

Sheriffdoms of Scotland are those of	
} Containing	Edinburgh
	Berwick
	Peebles
	Selkirk
	Wigtoun
	Renfrew
	Lanerk
	Dumbritton
	Bute
	Stirling
	Limithgow
	Clackmannan
	Kinross
	Coupar
	Forfar
} Middle Lothian	Kincardine
	Elgin
	Nairn
	Mers and bailiary of Lauderdale
	Tweedale
	The forest of Ettrick
	The N. and W. parts of Gallo-
	Barony of Renfrew
	Clydsdale
	Lennox
	Bute
	Isles of Arran
	Stirling, on both sides the river
	West Lothian
	The E. parts of Stirlingshire
	The W. parts of Fife
	The rest of Fife
	Angus with its pertinents
	Merns
	The E. parts of Murray
	The W. parts of Murray
	B b 3

{ Wick
{ Orkney

{ Caithness
{ Orkney
{ Shetland

Aberdeen cont. { Mar with its pertinents
Buchan

{ Strathbogy

Perth

Glenflee

Arbol

Strathandel

Gawry

Ramach

Broadalbine

Balwiddier

Menteith

Glenurquhy

Strathern

Stormount

Inverera cont.

{ Argyll

{ Lorn

{ Cantyr

{ Isles W. of { Lorn
Cantyr

Banffe cont.

{ Banffe

{ Strathdoveren

{ Boya

{ Enzy

{ Strathawa

{ Balveny

Inverness cont.

{ Badenough

{ Lochaber

{ The S. parts of Ross
Part of Murray beyond Nairn

Tayne cont.

{ Sutherland

{ Strathnaver

Roxburgh cont.

{ Tiviotdale

{ Liddisdale

{ Fiddale with Eufdale

Ayre cont.

{ Kyle

{ Carrick

{ Cunningham

Dumfries
Cromarty

{ cont. { All Nithsdale
A little of Ross, S. of Cromarty

Sheriffdoms of Scotland are those of

Besides those Sherifdoms, there are { Stewardsries
Bailiaries
One Constabulary

Stewardsries are { Strathern
Menteith
Annandale
Kircudbright } in { Strathern
Menteith
Annandale
E. and S. parts of Gal-
loway.

{ As also { St. Andrews
Killemuir
Abernethy } in { Fife
Angus
Perth }
Bailiaries are { Kyle
Carrick
Cunningham
Lauderdale } in { Kyle
Carrick
Cunningham
Lauderdale }

The one constabulary is that of Haddington, containing East Lothian.

Principal rivers are two, Tay and Spey.
Mountains of greatest note, are the Cheviot hills, and those of Albany.

Chief lakes are Lomond, Ness, and Tay.
Archbishopricks 2, Bishopricks 12, Universities 4.

IV. I R E L A N D.

The kingdom of Ireland, an island lying on the W. of England and Wales; in length from the N. parts of Antrim to the S. parts of Cork, 285 miles; in breadth from the E. parts of Down, to the W. parts of Mayo, 160 miles.

The inhabitants are both Protestants and Papists; their language, a dialect of the old British, intermixed with Norwegian, Danish and English; the English is also frequently used among them, and in some places a mongrel speech between both; their chief commodities are cattle,

tallow, butter, cheese, honey, wax, salt, hemp, linen cloth, pipe staves, wool, frizes, &c. It is divided into four provinces, which are,

1. Ulster. 2. Connaught. 3. Leinster. 4. Munster, or Mounster.

Rivers of note are Shannon, Barrow, Shur, and Black water.

Chief mountains are Knock Patrick, Slew Bloemey, and Curlew hills.

Lakes of greatest note are Lough Earn, Lough Neagh, and Lough Corrib.

Archbishopsricks 4. Bishopsricks 18. University 1.

Lesser British Islands are,

1. The Orkades, or Orkney islands, on the north of Scotland. The number of them is indeed very great; 26 of them are inhabited, and the rest called Holms, are used only for pasturage. Most of them are blest with a very pure and healthful air to breathe in, but their soil is very different, being in some extremely dry and sandy, in others wet and marshy; however, they are indifferently fruitful in oats and barley; the chief of them are Hoy, Mainland, Sapiinsha, and Westra; the chief town is Kirkwall in Mainland. These islands have been visited by the Picts, and subject to the Danes; but Christian IV. of Denmark, having quitted all his pretensions to them in favour of James IV. of Scotland, they have ever since acknowledged allegiance to the crown of Scotland.

2. Zealand. Under this name are comprehended 46 islands, with 40 Holms, besides many rocks. Of these islands about 26 are inhabited, the rest being used for feeding cattle. The chief of them are Mainland and Yell; the chief town is Ylesburg in Mainland.

3. The Hebrides. They surpass 300 in number, the most remarkable of which are Jona and St. Kilda.

4. Man, on the W. of England.

5. Wight, on the S. of England, &c.



Of the Management of HORSES.

THE necessity every traveller lies under of having some knowledge of the art of managing his horse; and the many inconveniencies frequently attending the want of this knowledge, are so evident that nothing need be said to evince the usefulness of this article : I shall therefore, without any farther preamble, give a few hints to assist my readers in buying such horses as are fit for the road, and then treat of their management under the accidents and disorders to which they are liable.

As to the first part of this task, it is the more necessary, since whoever would buy a good horse, must know how to chuse him himself, and never place the least confidence in the words of a jockey or dealer in horses.

Rules for buying HORSES.

IF a horse is young, his tusks will be sharp-pointed and grooved, or hollowed on the inside; but the jockies have the art of burning the corner teeth of an old horse, after they have been cut with a graver, by which means they imitate the mark, and frequently deceive; yet the cheat is discoverable by other signs: as, when he hath white eye brows, he may be supposed to be about 15 or 16 years of age: the age of a horse may also be known by the length and yellowness of his teeth, the leanness of the roof of his mouth, and the narrowness of the under jaw.

But it is not sufficient that you are not deceived in buying an old horse for a young one, the eye is carefully to be examined, lest you should buy a horse that is blind, or that has some defect in his sight. The best eye is of a hazel colour, and it is an advantage to have it rather large than small; the part commonly called the sight of the eye should be perfectly bright and clear, without

the least dimness, so that you may see the bottom, and the image of your face reflected from thence and not from the surface; and you should also observe, if upon changing the situation of the horse with respect to the light, you can discern the light of the eye contract or dilate itself. This, added to the clear transparency already mentioned, is a proof of the goodness of the eye.

But to proceed. Every man who buys a horse should shute one whose size and strength are in proportion to the weight he is to carry: but in general a middle sized horse is best for the road, and one of 14 hands and an inch is of sufficient strength to carry any man under 15 stone.

After the jockey has exercised his horse before you, you should ride him yourself two or three miles on a rough uneven road, when you should give him his head without forcing him by whip or spur to perform with more life and spirit than he is otherwise inclinable: if he walks, trots and canters nimbly, without dwelling upon the ground, taking up his fore feet moderately high, stepping longer or shorter, according as he finds there is occasion, and going near before and wide behind, he is likely to carry his master well. But it must be remarked, that the best proof of the excellency of a road horse is his trotting down hill, where it is pretty steep; for if he is able to perform this well, he is able to trot on any ground whatsoever.

Captain Burdon, in his Pocket Farrier, advises those that want to buy, to observe that the horses knees are not broken. This is a very good caution, and it is what all people are, or ought to be aware of; yet as one who is no common stumbler may have an accidental fall, you should observe whether the knees are covered with hard scars, which if they be, and the hair is curled about them, it is a certain proof of his being an old offender.

If a horse goes clean, it is a pretty sure sign that he moves well upon his limbs; therefore when you see a person alight at an inn, with his boots tolerably free from

dirt, you may almost venture to buy his horse without seeing him exercised.

The horse that has his breast full and prominent is very unfit for travelling; therefore, before you buy a horse, stand right in a line with his head, and mind that his breast do not keep his knees too far asunder, for the nearer he stands with his knees, provided he does not cut, the more reason have you to judge that he will travel expeditiously, therefore take particular notice that his breast be narrow, thin, and lean, his shoulder-points not projecting forwards, and his fore legs straight and almost perpendicular.

To conclude this article, there is scarce a better property in a horse than a sound, tough hoof, that will abide hard road without much beating. A foundered hoof is very often long and deep, and shaped more like that of an ass than of a horse; but the good hoof is semicircular, and rather flat than otherwise.

Rules for travelling, with Directions for preventing and curing the Disorders Horses are incident to on the road.

WHEN you set out on a journey, observe, whether the shoes be fast, whether they sit easy, or whether they do not cut either before or behind. If a horse cuts with bad thin shoes, he will probably do it when he is fresh shod; but this may sometimes be helped by a good smith.

Most of the disorders to which horses are subject, are produced by the negligence or ignorance of the rider; and as they may be easily prevented by a proper care, they are cured without difficulty, if taken in time. It is true it is much more easy to prevent diseases than to cure them; for if a horse be well curried, brushed and wiped down with a cloth, morning, noon and night, and duly exercised and well fed, he will be seldom out of order.

The advantage of currying and rubbing down is in-

conceivable; it promotes a due circulation of the blood, opens the pores, and consequently prevents a stagnation of fluids, promotes perspiration, and is the readiest way of preserving health.

The most common cause of grease and scratches, are the carlesseels, the nastiness and indolence of the groom; for unless the blood is kept in a balsamic state by proper exercise, clean, sweet and liberal feeding, that fluid, from which all the humours in an animal body are derived, must consequently become depraved. As exercise ventilates the blood, so, keeping the skin clean and smooth, occasions an easy perspiration through the pores: for if after hard riding we suffer our horses to lie with the sweat drying upon them, we run the risk of a violent surfeit, which is in fact the cause of most of the distempers incident to either human or brute creatures.

As we have mentioned liberal feeding, it may not be improper before we proceed farther to mention what quantity of oats, &c. a man should allow his horse on the road.

A full sized horse that has a good appetite, and travels hard, may be allowed every day about six quarts of oats, half a pint of split beans, and a good handful of wheat mixed together.

What is here said with respect to the quantity of oats necessary for a sized horse, may be a sufficient guide as to what should be allowed to those of fourteen hands or under; therefore I shall only add, that he who will not allow his horse the quantity of oats, &c. here mentioned, should ride slowly, and make short stages.

As we have been just mentioning the quantity of corn necessary to be given to a horse on a journey, I shall give the young traveller some hints relating to his watering his horse on the road, and then proceed to give directions for the cure of those disorders which are occasioned by the want of following these rules.

When a horse travels he perspires very much, and may therefore be allowed to drink a little now and then, as

opportunity offers, and this will greatly refresh him; but you should never let him drink much at a time, for if you suffer him to drink his fill, he will become dull and sluggish; and besides, if he be very hot, it may be attended with very bad consequences. However, when you come within a mile and a half, or two miles of the place you intend to bait at, either at noon or night, he may drink more freely, going a moderate trot afterwards, for by this means the water will be well warmed in his belly, and he will go in cool. Yet, carefully observe, that if there has been no water, or he has drank none on the road, never suffer your horse to be led to water, or to have his heels washed immediately after you arrive at your inn; let him have water, like warm after he has stood some time in the stable; for much mischief has been frequently done by imprudent riders, who after having travelled hard, have let their horses drink as much as they would, just after going into the inn or town where they intend to lie.

The observations relating to currying, feeding, and watering your horse, if carefully observed, will be of great service, and contribute more than any thing else to preserve him in perfect health.

How to preserve a HORSE's back from galling.

YOUNG horses that have not been used to have their backs pressed, are most subject to gall and warble, and therefore we cannot take too much pains in fixing the saddle and suiting it to the shape of the back, that it may bear as equally as possible upon all parts at the same time.

As soon as an inflammation is found to be coming on, which may be known by some places under the saddle sweating, or continuing moist longer than others, especially if the back be viewed some hours after the saddle has been taken off, these places should be eased by removing the stuffing, that the weight of the rider may press upon

other parts that are not so much heated. Vinegar, urine, salt and water, &c. are frequently used to cool a horse's back that has been hurt by being overheated; but if the skin be broke in holes, it would be better to use equal quantities of spirit of wine and tincture of myrrh and aloes, with a little oil of turpentine, and bathe the place with it now and then. There will be small holes in these tumours (which are called warbles) before some people would imagine it; but if you use the said tincture, you may proceed on your journey; you ought however to look frequently at your horse's back, and not hang upon him so as to make the inflammation spread. It would also hasten the cure if you would every hour walk a while on foot, and bathe the horse's back with vinegar, or any thing else that is an enemy to putrefaction.

On the Navel-Gall.

THE swelling called the Navel-gall is a tumour on the vertebrae, or bones of the back, and is occasioned by a contusion of the saddle-tree, which for want of stuffing the pannel, has rubbed and fringed the horse's back. To prevent this you should frequently, when riding, put your fingers before and behind your saddle, to feel whether it pinches the horse, that you may remedy this disorder in time, by getting your saddle chambered, or hollowed, to prevent its pressing the grieved part. But when, through the negligence of the rider, the horse happens to be cruell'd either before or behind the saddle, and that it swells much, you should, (as in all other tumours occasioned by bruises) endeavour to disperse it by applying warm greasy poultices, as scalded bran and hog-lard, boiled turnips, or the like. Though if the bruise be slight, it may yield to cold applications, as whites of eggs, wheat flower, bole armoniac and vinegar laid thick upon a piece of leather, larger than the swelling, and renewed as it dries; but if the hurt be very slight, the humour may be dispersed by washing the place with vinegar, or salt and water.

How to cure a Crueth on the Navel-Gall.

A Crueth on the navel-gall frequently becomes what is termed an encysted tumour; the matter that forms it is contained in a strong skin or bag; and this kind of swelling frequently remains for years after the hurt is received, unless they are carefully cut out by the farrier. The method of cure is to make a long incision, and to cut out the bag of matter, skin and all, and then to heal the wound with the following ointment.

The common Wound Ointment.

Take common turpentine, half a pound; honey, one pound and a half; Burgundy pitch, twelve ounces; and hogs lard, half a pound. melt those well together; and when it has been taken a while from the fire, stir in an ounce of French verdigrease in fine powder, and keep stirring till it is as thick as honey, or till the powder cannot sink to the bottom.

Of swelled Legs.

SWELLED legs in horses is one of their most common grievances, and it must be acknowledged that some are by far more apt to swell in the legs than others; but when the horse's legs swell and will not yield to good keeping, clean dressing, &c. without the help of medicines, the case is bad; but the following purge may be of service.

Take one ounce of common aloes, half an ounce of diapente, three drams of species-hera-picra, one dram of diagridium, 100 drops of oil of aniseed, and as much treacle as will make it into a stiff ball, to be rolled in liquorish powder or flower of brimstone, and given the horse in the common way, working it off with warm water and oat meal, when the medicine begins to operate.

The above dose, with respect to the quantity of the aloes and diagridium, may be enlarged or diminished ac-

according to the horse's age and strength; but it is not safe to increase the diagridium above the quantity of two drams; but a horse that is lean and weak should only be once or twice purged with the following preparation, and afterwards he should take strengthening medicines to restore his fibres to the natural tone and elasticity.

Take of succotrine aloes, one ounce and a half; extract of cassia, one ounce; of senega in powder, three drams; cinnamon, cloves, nutmegs, and galengal root, powdered, of each two drams; mix, and with as much syrup of roses solutive as is necessary, beat the whole into a stiff mass to be formed into two balls, which are to be given the horse in a morning, washing him down with a little warm ale, keeping him from his meat at least half a day.

If your horse is strong and full of flesh, and really requires purging, he may in such case bear the common aloes: but it is a necessary caution, that when the first dose does not purge, a second should not be immediately given: for by this management many horses have lost their lives; and it is a general rule, always to keep under the common dose of any medicine, till we are thoroughly acquainted with the temperament and constitution of the creature we have to deal with.

Of the Scratches.

THE scratches are a painful distemper, and in many respects are agreeable to what is termed kided heels in human bodies; and this generally proceeds from the carelessness and nastiness of the groom; so the greafe is mostly occasioned by his negligence, in suffering the scratches to grow to too great a height. Yet, according to Dr. Bracken, the scratches differ from the greafe, in that the first require rest, a large stall, and proper ointment, whereas the greafe (without the scratches) is better after moderate riding. Experience informs us, that motion prevents the closing of all kinds of wounds; and

it is equally certain that an horizontal posture of the body or limb wounded, is greatly preferable to a depending one; for these reasons, a sore on the back part of the fetlock, a part where the grease and scratches happen, requires care and patience. For this reason, if a horse who has the grease or scratches, or wounds or swelling in the legs, will not lie down, he must either be forced to it, or covered with a cloth, and turned out in the day; for when a horse is turned out from a warm stable into a field, the coolness of the air causes such a contraction of the fibres and the muscular parts, as puts a stop to the influx of the humours, by which means an inflammation and stagnation of the blood and juices are prevented; but before he is turned out, his heels ought to be well washed with warm water, and anointed with the following ointment.

An Ointment for the Scratches.

Take of white ointment, two ounces, Flanders oil of bays and quicksilver, each half an ounce: melt the white ointment a little, then stir in the oil of bays, and then stir in the quicksilver, and keep stirring till all be so cold that the last ingredient cannot sink to the bottom.

N. B. Before this ointment is applied the hair should be clipped away from the sores, the legs washed perfectly clean with pretty warm water, and the part well dried.

Dr. Bracken asserts, that inward medicines are not absolutely necessary in the cure of the scratches or grease, and assures us, that he durst undertake to cure these disorders sooner by turning out, good feeding, clean dressing, and letting the horse have a double stall in which he may lie at his ease, than by any other method whatsoever.

Of Gravel in the Hoof.

If a smith drives a nail into the quick, it naturally becomes festered and inflamed, and the sand or gravel in the roads working up the nail hole, render him perfect-

ly lame: and it is a general rule, that whenever any foreign matter happens to be lodged in any part of the animal machine, it should be taken out as soon and as carefully as possible. The greatest care should be taken not to cut, pare, or scrape the hoof more than is necessary, it being sufficient to cut away what is black and discoloured, and then to dress the wound with the following balsam.

Vervain's famous Balsam for curing Wounds or Pricks.

Take balsam of Peru, half an ounce: gum Benjamin, half an ounce; storax, three drams; succotrine aloes, three drams; choice myrrh, six drams; powder them; and after putting them into a wide mouthed pint gooseberry bottle, pour upon them one pint of rectified spirit of wine, and corking it loosely, set the bottle in sand in an iron pot over a middling fire, keeping the spirit pretty warm for 24 hours; after which you may keep it close stopped, and decant it off clear as you want it.

The method of applying this excellent composition, is, to dip it into a piece of lint or tow, and then fasten it on the part, cleared of the gravel, &c. and renew it as it grows dry. But if this cannot be easily procured, the part may be dressed with the following ointment.

An Ointment for a gravelled Horse.

Take of turpentine, two ounces; rosin and Burgundy pitch, of each an ounce; bees wax, an ounce and a half; treble butter four ounces; French verdigrease finely powdered, half an ounce; clarify the butter, and after melting the hardest substances first, put in the other, and last of all the powdered verdigrease; and stir the whole about till it is almost cold, otherwise the ointment will be more *starp* at the bottom than at the top.

Of a Clap in the Back-Sinew.

A Clap, or more properly a strain in the back-sinew, is frequently occasioned by a horse's getting his foot into a hole in the road, when having a heavy load on his back, he often catches himself so hastily upon stumbling, that he strains the back-sinew or tendon behind his fore-leg. This disorder is frequently mistaken by the farriers for a shoulder slip: but captain Burdon gives a very good rule to distinguish the difference. If the back-sinew be slipst, says he, the horse will lift his toe off the ground and step short; but if the shoulder, he will drag his toe as he walks.

The cure of the strain in the back-sinew is best accomplished by cooling applications, and will be much sooner effected if your horse will lie down and ease his leg. When the disorder is slight, this alone will be sufficient.

A Cure for a Clap or Strain in the Back-Sinew.

Take four ounces of bole armoniac, and ten whites of eggs: stir these well, and add thereto as much strong red or white wine vinegar as will reduce it to the consistence of a pretty stiff poultis; and then after the leg has been well bathed and washed with warm water, and wiped dry with an easy hand, spread the preparation on thin leather all along the sinew and part affected. This must be repeated as it dries.

Sir William Parson's Receipt for the Cure of a Strain, either of the Back-Sinew or the Shoulder.

Take common Barbadoes aloes, dissolved in as much hot water as will make it of the consistence of a plaister; when spread on a piece of thin leather, apply it to the part affected, and bind it easily on.

A Receipt for a Shoulder-Slip.

Take oil of turpentine, two ounces; oil of swallows and petrolum, of each half an ounce; mix these together, and having heated the shoulder and opened the pores of the

skin, by holding a flat iron pretty hot, at about a span distance, let it be well rubbed in.

Strains frequently happen on a journey, without any sensible heat or swelling, so that the part affected is frequently mistaken by the farriers; but in all cases of strains it is absolutely necessary to suffer the horse either to rest entirely, or to make small and easy stages; for where accidents of this kind happen, nothing can be worse than motion. The common practice of rowelling for strains, according to Dr. Bracken, is of no real service; since, tho' the lameness goes off after rowelling, it is not the number of rowels, but the rest from business and the length of time that perform the cure.

Of Strains in the Fillets.

When a horse has a strain in the fillets, it may be known by his dragging his hinder feet after him, his biting his toes on the ground, and his wriggling as it he would fall. The age of the horse and the violence of the strain will render the cure the longer in performing.

A Receipt for a Strain in the Fillets.

Melt some pitch, resin, and turpentine together, and pour it all over the fillets pretty warm, and then clap over a parcel of tow.

For Strains in the Fetlock.

Take the lees of wine, either red or white, or wine vinegar, to the quantity of about half a pint, and add thereto one pound of common bole armoniac in powder; to these put the whites of six eggs; beat all well together, and apply it thick in the manner of a poultice, and renew it as it dries. If the powder be too much or too little for the wine lees, it may be altered so as to make it of the consistency of thick honey.

Of Windgalls.

THE cure of windgalls chiefly consists in cooling the parts, and suffering the horse to lie idle, rather at

grafs than in the house. The above charge for strains in the fetlock may be of great service. Or, the fetlock joints may be rubbed now and then with tar.

Of Colds.

Colds generally proceed from giving cold water to horses, when hot, or in letting them cool too suddenly; and many horses have become phthick and even broken winded, by being rid, when in a sweat, belily deep in cold water. Colds generally affect those parts of the body which are most susceptible of impression, as the brain, lungs, and guts of animals; for when that matter which ought to be perspired, is retained in the blood, by the closing of the pores of the skin, nature endeavours to throw off what is hurtful, by other outlets, such as the nose, mouth, fundament, urine, &c. and therefore it is the business of the physician and the farrier to assist nature in promoting some of these discharges. And therefore when a cold is violent, as an over great fulness is brought on from the perspirable matter lodged in the veins being obstructed, bleeding must be highly proper. But there is nothing better for a horse that has got a cold, than the following cordial ball.

A cordial Ball for colds, proper to prevent or cure most Diseases in Horses, when there are no Symptoms of a Fever.

Take aniseed and caraway seed, finely powdered, of each one ounce; greater cardamum seed, half an ounce, flower of brimstone, two ounces; turmeric, in fine powder, one ounce; saffron, two drams; sugar-candy, four ounces; Spanish liquorish dissolved in hyssop-water, two ounces; oil of aniseed, half an ounce; liquorish powder, one ounce and an half; wheat flour, as much as is sufficient to make all into a stiff paste; and when the whole has been well beaten in a mortar, it may be tied up in a bladder, and kept for use.

This ball, when used for a cold, must be dissolved in stale beer, milk warm, and about one ounce for a dose, given

twice a day for the space of a fortnight; or else, instead of dissolving it, it may be put between his grinders, when you should let him chew upon it for an hour or two without eating hay or grass, and afterwards give him oat meal and water lukewarm, stirring them gently about, both before and after watering.

If a horse seems griped in the guts from the same cause, let him have the following warm drink given him.

A cordial Drink in a Cold.

Take two ounces of the above ball, half an ounce of grains of paradise, in powder, and a quarter of an ounce of long pepper, with a large nutmeg grated, and mix all up with a quart of strong, mellow ale, and give it the horse in a horn, and then keep him tied up from food for two hours; but first he must be rid about a little, on a full trot, to shake his guts, and let loose the imprisoned wind.

If the horse is bouned in his body, about twelve hours after his taking the above cordial drink, you may give him the following clyster.

A Clyster for Griping in the Guts

Take mallow leaves and pellitory of the wall (either green or dried) of each three handfuls, caraway seeds bruised, and ariseds, of each one ounce, ground ginger, half an ounce, the electuary called caryocostium, one ounce; boil the herbs and seeds well in two quarts of water, to three pints, then add the ginger and the electuary, and put a quarter of a pound of fresh butter, and one ounce of Epsom salt to the whole. Let this be injected very warm, and the horse's tail tied down between his thighs for a good while.

In case the guts are situated with painful twitches and convulsive contractions, which make the horse tumble about and strike his feet against his belly, to the above clyster may be added half an ounce of phlogiston romannum. These remedies, together with care and patience, warm

masses of malt, bran, and the like, will restore your horse to health; but observe that he ought to have a wide stall, and clean, warm bedding.

Another excellent Receipt for the cure of Gripecs.

Take twenty grains of London laudanum, dissolve it in an ounce of brandy, then mix it with a pint of white wine, and add two ounces of diascordium; give it your horse in a horn milk warm, and clothe him well. Let him rest twenty four hours after it, and drink plentifully of warm water and oatmeal, for he will be very thirsty the day after he has taken it.

On Scouring or immoderate Purging.

Scouring or purging on the road may be remedied by keeping the horse to dry food and less water than common; but this must be continued for a long time with proper exercisc, and a full allowance of oats and split beans.

A horse of a lax constitution being taken from grais to go a long journey, should have the following preventive physic given him in his provender.

A Powder against Scouring or over-purging.

Take galls, powdered (such as we make ink with) two ounces, and of the powders of Japan earth and Lemnian earth, of each an ounce; mix and keep them in a bladder for use. The method of using it is to sprinkle a little water upon the horse's oats, and after rubbing them a while to throw amongst them half a spoonful of the powder.

If a horse from foul feeding, catching cold, &c. purges upon the road, give him the following drink.

A Drink for a Horse which scours from foul feeding, &c.

Take one ounce of Venice treacle, boil it in a quart of stale beer till one third is evaporated, then add half an ounce of true Armenian bole in powder, and two ounces of common-treacle to make it palatable; then give it the

horse in one dose, and repeat it as necessity requires. If it be too weak to overcome the distemper, an hundred drops of liquid laudanum, and half a gill of strong cinnamon water may be added; but in the last case he should not travel for some days.

Of a Cold in the Head.

WHEN the brain is much loaded from the cold, take some of the following powder, and blow it through a piece of elder wood, pretty high up the nostrils.

A Powder to make a Horse's Nose ~~run~~ in a Cold.

Take asarabacca * dried, half an ounce, and of the powder of margerum, one ounce, mix these together, and blow up the horse's nostrils two or three times a day, keeping his head and throat well covered, to prevent his getting more cold.

As his eyes are subject to various accidents on the road, particularly from the cut of a whip, a remedy for these disorders cannot be unnecessary. All wounds on the eye, if curable, will yield to the following application.

A Receipt for curing Wounds on the Eyes.

Take half an ounce of the greyish coloured lapis calaminaris, finely powdered, of lapis tuzie, two drams, of white vitriol, burnt, one dram and a half, and about one scruple of French verdigrease, reduce these into fine powder, and mix them well with about one ounce of fresh butter. When you make use of it, warm this ointment, dip a feather in it, and apply it morning and evening to the fore. This must be continued for a good space of time, because wounds on the eyes are long in healing.

Or when the horse's eye happens to be hurt with a lash of a whip or twig, you may blow in the following powder night and morning.

* This is an herb shaped like the garden scurvy-grass, only it is larger, and of a darker green.

For a hurt on the Eye.

Take of lapis calaminaris and lapis tuiza, finely powdered, of each two drams, white vitriol and allum fist powdered and then burnt together in a very clean, red-hot fire-shovel, each half an ounce, mix all these together, and keep the whole in a bottle well corked; but observe that the bottle ought not only to be dry, but well warmed before you put it in.

If the eyes be rheumy and bloodshot, and the horse has symptoms of pain in his head, bleeding will be necessary, and the following eye-water may be applied.

An excellent Eye-Water.

Take four ounces of rose water, and about three drams of the aforesaid eye powder mixed and dissolved in it; squirt it into the eyes by the help of a syringe.

The water is best for rheumy bloodshot eyes, where there is no speck or film; and the powder where there is; observe the eye always looks worse while the powders are using.

A Cure for a swelled Neck.

When a horse's neck happens to swell by getting cold after bleeding, the following softening poultice is the best remedy that can be applied.

Take mallow and marsh mallow leaves picked clean from the stalks of each ten handfuls, white lilly roots, half a pound; linseed and fennugreek seed, of each two ounces, ointment of marsh mallows, six ounces, and of hogs lard, half a pound. The leaves and roots should be boiled well, and the water pressed from them; then beat them up to a pulp in a mortar, and let it stand till you have made a jelly of the seeds by bruising them well, and boiling them in a quart of water to a pint; this you must beat up with the former; and lastly add the ointment and hogs lard, and when all are mixed thoroughly, it may be kept in a large bladder or pot for use.

This is an excellent poultice for all hard swellings, either in man or beast: when applied, it should be warmed well before the fire, spread thick over a piece of flannel, applied all over the tumour, and renewed as it becomes dry.

If a swelling of a horse's neck, after bleeding, will not disperse, it should be opened when sufficiently soft, and dressed with the common wound ointment, before recommended for healing the navel-gall, and the poultice continued till the hardness is dissolved.

When a horse is under cure for these kind of swellings, it is best to give him mashes of malt, warm grains, and warm water, with a good deal of oatmeal in it, and if he will eat a little hay, it should be sweet, soft, meadow hay, sprinkled with cold water; or, in summer, cut grass.

A Receipt to cure Worms.

The best remedy for the cure of worms is athiops mineral, which ought to be thus prepared. Take four ounces of flower of brimstone, and the like quantity of quicksilver; melt the brimstone slowly in an iron ladle, and stir in the quicksilver over a gentle heat, till it is incorporated; then take it off, and stir it till almost cold; afterwards stir them well together in an iron or stone (not a brass) mortar, till they become a black powder. Give the horse as much as will lie on a half crown piece twice a day in his corn, which must be first wetted to make the powder stick to it. This medicine must be continued a week or longer.

A Remedy for the Gravel.

If your horse has the gravel in his kidneys, ureters, or bladder, he will seem weak in the flanks, stool often, and with difficulty, and but little at a time.

Take an ounce and a half of the cordial ball above-mentioned: soap of tartar, one dram: of Matthew's pill, one dram; or if the horse be lousy and strong, a dram and a half; beat those well together, and with liquorish pow-

der make it up into two balls, and mixing it with a little stale beer and some treacle, give it for a dose out of a horn.

This medicine, if the symptoms are violent, may be repeated once in twenty four hours; and every two or three hours water lukewarm should be offered him.



T H E

A R T of PA I N T I N G in O I L.

To which is added, the whole ART of GILDING with GOLD and SILVER, mixing WATER-COLOURS, &c.

A C A T A L O G U E of the several COLOURS used in PAINTING with OIL.

W H I T E S.

THE principal of all whites is white lead.

Of this colour there are two sorts, the one called ceruse, which is the most pure and clean part, the other is called by the plain name of white lead.

Besides white lead and ceruse, there is another sort to be met with sometimes, which they call flake white.

B L A C K S.

Lam black

Lamp, or candle black.

Ivory black.

Willow charcoal.

R E D S.

Vermilion is the most delicate of all light reds, being of itself a perfect scarlet colour.

Lake, especially the richest sort, is the best of all dark reds, being a most pure crimson.

Red lead is the lightest of all reds now in use ; it is a sandy, harsh colour, and such a one as is not easily ground very fine, although you bestow much labour on it.

Spanish brown is a dark, dull red, of a horse-flesh colour ; it is an earth, it being dug out of the ground, but there is some of it a very good colour, and pleasant enough to the eye, considering the deepness of its colour : it is of great use among painters, being generally used as the first or priming colour, that they lay upon any kind of work, being cheap and plentiful, and a colour that works well, it it be ground fine, as you may do with less labour than some better colours do require ; the first sort is the deepest colour, and freest from stones ; the other sorts are not so good to give a colour to the eye, but yet they serve as well as any others for a priming colour.

Y E L L O W S.

Yellow oaker is of two sorts, one called plain oaker, and the other spruce oaker, the one is a much lighter colour than the other.

Pink yellow.

Orpiment is that colour which some call yellow arsenick. Malticote is a good light yellow for most uses, especially in making greens, of which several sorts may be framed out of this colour, being mixed with blue.

G R E E N S.

Verdigrease is the best and most useful green of all others. Green bice is of a sandy nature, and therefore not much used ; green verditer is also a sandy colour ; neither of them bear any good body, and are seldom used but in landships, where variety is required.

B L U E S.

Blue bice bears the best body of all bright blues used in common work, but it is the palest colour.

Blue verditer is a colour of no good body, but something sandy, and of no very good colour itself, being apt to turn greenish, and being mixt with a yellow makes a good green.

Indigo is a dark blue, if worked by itself, to remedy which, whites are usually mixt, and then it makes but a very faint blue.

Note, That the longer this colour is ground, the more beautiful and fair it looks.

Smalt is the most lovely blue of all others.

Note, That of this colour there are two sorts, the finest is that which is called oil smalt.

Umber is a colour that really has no affinity with the others above mentioned, being neither white, black, red, yellow, blue or green, yet it is a colour of as great use as any of the rest in common painting.



How to make a Size for Gilding both with Gold and SILVER.

THE operation is thus, for the making of gold size: take yellow oaker, and grind it on a stone with water till it be very fine, and afterwards lay it on a chalk stone to dry: this is the common way: or you may wash your oaker, for when it is washed, to be sure nothing but the purest of the colour will be used; and besides, it is done with less daubing.

When your oil and oaker are thus prepared, you must grind them together as you do other oil colours, only with fat drying oil, but it is somewhat more laborious, and must be ground very fine, even as oil itself: for the finer it is the greater lustre will your gold carry that is laid on it.

Here note, that you must give it such a quantity of your fat oil, that it may not be so weak as to run when you have laid it on; nor so stiff that it may not work well; but of such a competent body, that after it it is laid on, it may settle itself smooth and glossy, which is a chief property of good size.

Silver size is made by grinding white lead with fat drying oil, some adding a little verdigrease to make it bind.

The practice of working oil colours, and painting timber-work, after the manner of common painting.

THAT which I here call common painting is only the way and manner of colouring all manner of wainscot, doors, windows, posts, rails, pails, gates, border-boards for gardens, or any other materials that require either beauty or preservation from the violence of rain, or injury of weather; the method of doing which, I shall lay down as plain as I can. Suppose then, that there be a set of palliades, or a pair of gates, or some posts and rails to paint, and I would finish them in a stone colour; first look over the work, and take notice whether the joints be open in the gates, or whether there be any large clefts in the posts, for if these are not secured the wet will insinuate itself into those defects, and make the quicker dispatch in ruining the whole work; let the first business therefore be, to stop up these places smooth and even, with a putty made of whitening and linseed oil, well beaten together on the grinding stone, with a wooden mallet, to the consistence of a very stiff dow, and with this let all the cranmies, clefts, and other defects be perfectly filled up, that it may be equal to the surface of the fluff, then proceed to the priming of the work with some Spanish brown well ground and mixt with very thin linseed oil; with this do over the work, giving it as much oil as it will drink up; this in about two days will be indifferent dry, then if you would do the work substantially, do it over again with the same priming colour; when this is thoroughly dry, then take the white lead well ground and tempered up, not too thin, for the thicker you work it, the better body will be laid on, and the thicker coat of colour that your timber is covered withal, the longer it will last; let this colour be well rubbed on, and the whole surface of the work be so entirely covered, that there remain no creek nor corner bare, which you may easily do by jobbing in the point of a bristle brush; let this first colouring dry, and then go over it a second time, and if you

please a third also; the charge will be a little more, but the advantage will be much greater.

This course is sufficient for any kind of timber work that requires only a plain colour; whether you thus cover the work with a stone colour, or else with a timber colour inumber and white, or a lead colour in indigo and white, that of the white being the cheapest of the three by much; nay, I have known some lay over their work only with a coat of Spanish brown, by tempering it up more stiff than was done for the first two primings, which in some respects is cheapest of all, and preserves the timber perhaps as well as any. Now he that is able to bring the work thus far on has proceeded to the highest pitch of that common painting that aims at preservation beyond beauty, tho' something of beauty is necessarily included in this also; but this is not all, for he that is arrived thus far, is in a fair way to other perfections in the art of painting: but for the panneling of wainscot with its proper shadows, and for imitating olive and walnut wood, marble and such like; these must be attained by ocular inspection, it being impossible to deliver the manner of the operation by precept without example, and I am bold to affirm, that a man shall gain more knowledge by one day's experience than by a hundred spent to acquire it in some other way.

I advise therefore all those that desire any insight into this business, to be a little curious, if opportunity offers, in observing the manner of a painter's working, not only in grinding his colours, but a so in laying them on, and working them in; in all these observing the motion of his hand, in managing of any kind of tool, and by this means, with a little imitation, joined to the directions here given, I doubt not but in a short time you may arrive to great proficiency in the business of common painting.

Note, That if when you have made use of your colours, there be occasion for a small cessation till the work be finished; in this case it is best to cover the colours in your pot with water, for that will prevent their drying, even in the hottest time.

And for your pencils, they ought, so soon as you have done working, to be well washed out in clean lintseed oil and then in warm soap suds; for if either oil or colours be once dried in the brush or pencil, it is spoiled for ever.

It has been observed, that timber laid over with white, when it has stood some time in the weather, the colour will crack and shrink up together, just as pitch does, if laid on any thing that stands in the sun; the cause of this is, that the colour was not laid on with a stiff body, able to bind itself on firm and fast.

If you shall at any time have occasion to use either brushes that are very small, or pencils, as in many cases there will be occasion, you ought then to dispose of the colours you use upon a pallet (which is a wooden instrument, easy to be had at any colour shop) and there work and temper them about with your pencil, that the pencil may carry away the more colour; for you are to note, that if a pencil be only dipt into a pot of colour, it brings out no more with it than what hangs on the outside, and that will work but a little way, whereas if you rub the pencil about in the colour, on the pallet, a good quantity of colour will be taken up in the body of the pencil; and besides all this, you may work your pencil better to a point on a pallet, than you can do in a pot; the point of a pencil being of greatest use in divers cases, especially in drawing of lines and all kinds of flourishing.



What Colours are most suitable, and set off best one with another.

BY setting off best, I mean their making each other look most pleasant, for two of some particular colours put together, or one next the other, shall add much to the beauty of each other, as blue and gold, red and white, and such like: but green and black put together, look not so pleasant, neither do black and amber, or brown, and such like.

All yellows then set off best with blacks, with blues, and with reds.

All blues set off best with whites and yellows.

Greens set off well with blacks and whites.

Whites set off well enough with any colour.

Reds set off best with yellows, whites and blacks.

Gold looks well upon a white ground, especially if the matter to be gilt be carved.

Gold and black shew also very well.

Gold on timber colour shews also very well.

So does gold and horse flesh colour, made with the brightest Spanish brown.

But the most glorious ground of all others for gold are the vermillion red, the smalt blue, and the lake, laid on a light ground.

Of some colours that arise from mixture.

Ash colour is made of white lead and lam black; if a deep ash colour, then take the more black, if a light one, then take but little black, and most white.

A lead colour is made of Indigo and white.

A colour resembling new oaken timber, is made of umber and white lead.

A flesh colour is compounded of lake, white lead, and a little vermillion.

A buff colour, take yellow oaker, and white lead.

For a willow green, take verdigrease alone.

For a light willow green, take verdigrease and white.

For a grass green, take verdigrease and pink.

A carnation is made of lake and white.

Orange colour, yellow oaker and red lead.

A light timber colour, mix spruce oaker and white, and a little umber.

Brick colour, red lead, a little white and yellow oaker.

For a straw colour, take white and a little yellow oaker.

Olive wood is imitated with oaker and a little white, veined over with burnt umber.

Walnut tree is imitated with burnt umber, and white,

veined over with the same colour alone, and in the deepest places with black.

Pails and pots are sometimes laid over only with white, which they call a stone colour.

Sometimes pots and pails are laid over with indigo and white, which is called a lead colour.

Window frames are laid in white, if the building be new, but if not then they generally are laid in lead colour, or indigo and white, and the bars with red lead.

Doors and gates, if painted in pannels, then the shadows of a white ground are umber and white, but if laid in a lead colour, then the shadows are litted with black.

'Tis not possible to set down all these varieties of colours that may be produced by mixture; they that would see more, may peruse Dr. Salmon's polygraphice, where they shall find great variety. But those which I here have given an account of, are sufficient for common painting.



How to gild with GOLD on an oily Size, either Letters or Figures, &c.

WHatsoever you would gild must first be drawn with gold size (the making of which has been mentioned) according to the true proportion of what you would have gilt, whether figure, letter, or whatever else it be; when you have thus drawn the true proportion of what you would have gilt, let it remain till it be sufficiently dry to gild upon, which you shall know by touching it with the end of your finger; for if your finger stick a little to it, and yet the colour come not off, then it is dry enough, but if the colour come off on your finger, then it is not dry enough, and must be let alone longer; for if you should then lay your gold on, it would so drown it, that it would be worth nothing: but if your size should be so dry as not to hold your finger as it were to it, then it is too dry, and the gold will not take; for which there is no remedy but new sizing; therefore you must watch the true time that

it be not too wet or too dry ; both extremes being not at all convenient.

When your size is ready for gilding, take your book of leaf gold and opening a leaf of it, take it out with your cane plyers, and lay it on your gilding cushion, and if it lie not smooth, blow on it with your breath, which will lay it flat and plain, then with a knife of cane, or for want of it, an ordinary pocket knife, that hath a smooth and sharpedge ; with this (being wiped very dry on your sleeve, that the gold stick not to it) let your leaf of gold be cut in to such pieces or forms as your judgment shall think most suitable to your work.

When you have thus cut your gold into convenient forms then take your gilding pallet, (tis a flat piece of wood, about three inches long and an inch broad, upon which is to be glewed a piece of fine woollen cloth of the same length and breadth,) and breathe upon it to make it dampish, that the gold may stick to it ; with this tool take your gold (by clapping it down on the several pieces you had before cut into forms) and transfer it to your size, upon which clap it down according to discretion, and your gold must afterwards press down smooth with a bunch of cotton, or a hare's foot ; and this you must do piece by piece till you have covered all your size gold ; and after it is fully dryed, then with your hare's foot brush off all the loose gold, so will your gilding remain fair and beautiful.

If your work to be gilt be very large, open your book of leaf gold, and lay the leaf down on your work without cutting it into pieces, and so do leaf by leaf till you have covered quite over what you intend to gild : and if some particular places should mis there, take up with a small bunch of cotton a piece of leaf-gold, cut to a fit size, and clap it on, that the work may be entirely covered ; and if the gold be to be laid in the hollows of carved work, you must take it up on the point of a camel hair pencil, and convey it in, and with the said pencil dab it down till it lie close and smooth.



How to gild with SILVER.

IN laying on silver upon an oily size, the same method in all respects is required as for gilding with gold; save only in this, that the size upon which silver is laid, ought to be compounded of a very little yellow oaker, and much white lead; for the size being of a light colour, the silver laid on it will look more natural, and retain its own colour better, the whiter the size is.

Note, That the common painters do now generally in gilding use more silver than gold, in most works that are not much exposed to the air, to which they afterwards give the colour of gold, by means of the lacker varnish, whose use is now so common, that if they gild any thing that stands free from the weather, they only gild with silver, and so give it the colour of gold with a lacker varnish, made of gum lake, dissolved in spirit of wine and laid over it.



Some Directions for mixing of oil, Colours for divers Purposes, in the Art of colouring Prints with Oil Colours.

Colours for several Faces.

FOR faces that are accounted fair, take white lead, a little vermilion and a very small touch of lake.

For the lips take more of the vermilion and lake than you did for the face.

For a brown face, take burnt oaker and white.

For a tawny moor, take cullens earth, a little burnt oaker and a little white.

Colours for Hair.

For a brown hair, mix umber and a little black and white.

For a yellow hair, take stone oaker, white lead and a little vermilion.

For a flaxen hair, take white lead, stone oaker, and a little collens earth.

Linen is done with white lead or ceruse.

Silver is done with white, a little smalt, and some white masticote.

Gold is done with red orpiment and white masticote, of each an equal quantity.

Colours for Garments.

For blue garments, the best smalt and white lead.

For a grass green, mix verdigrease and a little pink-yellow.

For a willow green, mix verdigrease and a very little white.

A sea green is made by mixing green verditer, pink, and white-lead.

A French green is made by mixing pink and indigo.

A carnation by mixing lake and white lead.

A crimson is made by mixing vermilion, lake and white.

A scarlet is only vermilion laid on alone.

A cherry colour is made by mixing vermilion and white lead.

For yellow, lay on either yellow orpiment, or yellow masticote; if your yellows are more pale, then mix white with the former.

For an orange colour, mix red orpiment and a little vermilion.

For a purple, mix smalt, lake and white.

For a violet, mix bice and lake.

A straw colour is made with white and yellow-oaker, and a very little number.

An ash-colour is made by mixing black and white.

A chefnut colour is made by mixing umber, lake and white.

A dove colour, or the wings of an angel, take white, a little lake, and a little smalt.

Colours for Trees.

For the bodies of trees, take pink, yellow, white lead, yellow oaker, and a little black.

For the leaves of them that are near the eye, take verdigrease and pink, or if darker coloured, then take indigo and pink.

For leaves of trees farther off, take green verditer, pink, and white-lead.

For them that are farthest of all, take terra verd and white.

Colours for Grounds behind a Picture.

Note, that a light hair requires a dark ground, and a dark hair a light ground.

Ground colour for a picture with a light hair is made with umber, white and black.

A ground colour for a dark hair is made with umber and white.

For Ground in a Landkip.

Take pink, oaker, and white, with a little green verditer.

For country houses at a distance, take white lead, yellow-oaker, and smalt; the same colour serves also for houses of stone.

For brick houses or walls, take yellow oaker burnt, and white lead, if the work be far off, but if near, then Indian red, and a little white.

For pails of wood or other timber work, of what kind soever, in country cottages, take umber, white, and a little oaker.

Sky colours

Are made of smalt and white for the highest skies, more white for the lower, and yellow mixt with a little vermilion for the lowest of all.



The whole Art and Mystery of colouring MAPS, and other Prints, in Water Colours.

Having, as yet, seen nothing published upon this subject that is authentic, I have thought fit, for the sake of those who are inclined to ingenuity, to set forth the way and manner of doing this work, it being an excellent recreation for the gentry, and others, who delight in the knowledge of maps; which, by being coloured, and the several divisions distinguished one from the other, by colours of different kinds, do give a better idea of the countries they describe, than they can possibly do uncoloured.

Now to perform this work after the best manner, there must be provided in the first place a lye made with tartar, and gum water.

To make the tartar lye do thus; take two ounces of the best white tartar, which is a stony substance that sticks to the side of the wine vessels, and is sold by the druggists.

Wrap it up hard and tight in half a sheet of brown cap paper, wet it thoroughly in water, and put it into a clear fire, either of wood or sea-coal; let it remain therein till it be red hot quite through, then take it out with a pair of tongs, and put it immediately into a pint of water, and with your finger rub it well to pieces; put it into a long narrow glass, and in a day or two the black will all settle, and the lye will become pure and clear; pour off the lye into a clean glass, and keep it close stopp'd for use.

To make a gum-water, take three ounces of the whitest and clearest gum arabick, which is also sold at the druggists, and beat it as small as you can bruise it; then put it into a pint of fair spring water, and let it dissolve therein, which will be much hastened by shaking the glass three or four times a day very well, that the gum that is dissolved may mix the better with the water that is above it; and when it is all dissolved, if there appear any foulness

in it, strain it through a rag into a clean earthen-dish, and put it into a glass, and stop it up for use. Note, That too much of this ought not to be made at a time: for if the gum be kept dissolved too long in the water, it will rot, and so be of no use; therefore observe to make it fresh once in two months, or three at the farthest.

In the next place, you must prepare or make your colours ready for use, and the best for this work are those that follow: Namely,

Copper green, and that is made thus; take a pound of right French verdigrease, made at Montpellier, this being the best, for the verdigrease made at any other place will fade; to this add three ounces of cream of tartar, beat them both into a fine powder, and take care, while the verdigrease is in the pounding, to stop your nose, and hold a bunch of fine linen in your mouth to breathe through, else the subtle powder of the verdigrease will be apt to offend; and when this is done, mix both the powders into two quarts of water, and boil it in an earthen pipkin till it boil away a quart, then strain it out, when cold, and put the liquor into a glass, stop it up, and let it stand to settle till the liquor be very clear, so you will have a delicate green; but sometimes the verdigrease not being always of a goodness, the colour may not be deep enough for some uses. In this case, put some of it into a broad earthen dish, and set it over a chafing dish of coals, and by a gentle heat, diminish so much of the liquor, till by trying on a paper, and letting of it dry, the colour please you; and here you are to note, That if it shine too much when dry, it is not right; for it is not rightly made except it but just shine, and if you cannot make the colour deep enough by evaporating by heat, the abounding liquid, without making it shine too much, it were better to add some more verdigrease, and boil it up anew till it become a transparent deep willow green. If you would make but a pint of this, you must take but half the quantity of each; and you are also to take notice, that this is

a colour that will keep many years without decaying, if the glass that contains it be close stopp'd up.

The next colour needful to be made, is a stone colour, or a liquor of myrrh, which is thus done; take a pint of your tartar lye, and add to it one ounce of the best myrrh in powder, which you can get at the druggists, and boil it till the myrrh is dissolved, which will be done in a small time; let it settle and pour off the clear for use, which you must keep close stopp'd up; this is also a tincture that will never decay, and may be made fainter or deeper by boiling more of the liquor away to make it deeper, or by adding water to make it fainter.

And in the last place, there is required a crimson colour, which is speedily made thus: Buy at the druggists some good cochineal, about half an ounce will go a great way; take thirty or forty grains, bruise them in a galley-pot to fine powder, then put to them as many drops of the tartar lye as will just wet it, and make it give forth its colour; and immediately add to it half a spoonful of water, or more, if the colour be yet too deep, and you will have a delicate purple liquor or tincture. Then take a bit of allum, and with a knife scrape very finely a very little of it into the tincture, and this will take away the purple colour, and make it a delicate crimson. Strain it through a fine cloth into a clean galley-pot, and use it as soon as you can, for this is a colour that always looks most noble when soon made use of, for it will decay if it stands long.

Indigo is another colour used in colouring of maps.

This is bought at the colour shops that sell paint, and it must be ground very fine on a stone, as you do oil colours, with a little tartar lye to make it give its colour, and look the brighter; when it is ground perfectly fine like a thick syrup, add gum water to it till it be thin enough for your purpose, and keep it in a glass close stopp'd up, but it will settle so, that when you use it you must stir it up from the bottom.

For a yellow, gumboge is the best; it is sold at the drug-

gills in lumps, and their way to make it fit for use, is to make a little hole with a knife in a lump, and put into the hole some water, stir it well with a pencil till the water be either a faint or a deeper yellow, as your occasion requires, then pour it into a gallery-pot, and temper up more, till you have enough for your purpose.

Red lead is also a colour much used in this work, and so is orpiment; both which you may buy at the colour shops very finely ground, so that they need only to be tempered with gum water to be fit for use.

Blue vice is also used often, which needs only to be tempered with gum water, and when men design to be curious, they may use instead thereof ultramarine, which is the best and most glorious of all blues, but vastly dear; yet small papers of it about two shillings price may be bought at some colour shops, which if carefully used, will go a great way; it needs only to be tempered in a very small gallery-pot with some gum water, till it lie on the paper with a good colour.

There is likewise an exceeding glorious red or crimson colour, named carmine, which is exceeding dear, yet about half a crown's worth will go a great way in the uses to which it is put; it is tempered with gum water, and gives several degrees of colour according as it is thicker or thinner tempered.

Vermillion is also used in some cases. This is a glorious scarlet, that needs only to be tempered with gum water; for it may be bought very finely ground to powder at the colour shops; only it is to be noted, that this colour shews much brighter when dry, if glazed over with some thick gum water, which is made by putting two ounces of gum arabick to half a pint of water, or less.

And for some uses burnt umber, ground very fine with water as thick as possible, and then tempered with gum water to a due thickness, makes a good transparent colour.

There is another colour needful in this work, which is a most pleasant grass green, and that is made thus: take

a lump of gumbooge, and make a hole in it, then putthercin some copper green, stir it about with a pencil, and from a willow you will see it turn to a grasse green, which you may make deeper or lighter as you stir it about a longer or lesser time.



Of the Practice of Colouring MAPS.

THE colours being prepared as before directed, the only way to colour maps well, is by a pattern done by some good workman, of which the Dutch are esteemed the best; three or four such maps coloured by a good artist, are sufficient to guide a man in the right doing of his work; but if he cannot obtain this, he may by a few trials grow a good artist in a short time: for this is only attained to by practice, and if a man spoil half a score maps in order to get the knack of colouring a map well at last, there is no man that is ingenious will grumble at it.

The art of colouring right may be attained by practice, as was said, but the hardest thing is to know rightly how to make and prepare the colours properly, without suffering them to sink into it; all that are here mentioned will lie fair and pleasant to the eye, and it is the fairness of the colour is most esteemed in this art of map painting; but if the paper be not good and strong, no art can make the colours lie well; therefore in buying maps, choosethose that are printed on the thickest or strongest paper.



DIRECTIONS how to lay on METZOTINTO PRINTS on GLASS.

I Nundertaking this, curiously lay the prints flatways in warm water, of the thinnest and finest paper, for that which is rough and thick will not do near so well, if at all; let them soak well, and your glass being very white and thin, go over it with Venice turpentine spread thin with

332 **EXPORTS and IMPORTS of GREAT BRITAIN.**

a pliable knife, and daub it all over with your finger, that the turpentine may seem rough.

This done, take the soaked print, and lay it on a clean cloth smooth, then press with another to take out the water, then lay it on the glass, the print next it, beginning at one end, stroking outwards the part already fixed to the glass, that neither wind nor water may be retained between to wrinkle it; then with a bit of a sponge, or your hand, wet the backside, and slightly by degrees roll off the paper carefully, without making holes, especially in the lights, which are the tenderest, and when the print appears very plain on the backside, let it dry about two hours, then varnish it over with turpentine or mastic varnish till you can see through it, and a night's drying will prepare it to be worked on with colours.

If you would have all the paper off, so that nothing but the print may remain, lay it as before with oil of mastic, and a little turpentine and a brush will fetch off the colour.



T H E

EXPORTS and IMPORTS of GREAT BRITAIN to and from foreign Nations.

TO and from CHINA, INDIA and PERSIA.

EXPORTS. **C**REAT quantities of bullion, lead, all sorts of English cloth, especially broad cloths, fluffs, callimancoes, longells, and some other goods, which are the product or manufacture of this kingdom.

IMPORTS. China ware, tea of all sorts, cabinets, raw and wrought silks, muslins, calicoes, cotton cloths, coffee, canes, diamonds, drugs of many kinds, grocery wares of various sorts, and many other kinds of goods: of which

EXPORTS and IMPORTS of GREAT BRITAIN. 333

Mr. Gee supposes as much re-exported to foreign nations, as repays all the bullion carried to these places, and a considerable balance besides.

TO and from AFRICA.

EXPORTS. Linnen and woollen manufactures, knives, scissars, small looking glasses, strong waters, pewter dishes, beads and other toys.

IMPORTS. Gold dust, red wood, elephants teeth, Guinea grain, gum, ostrich feathers, amber, ebony, crystal, and great numbers of negroes carried to the plantations of America. From the coast of Barbary we have rice, figs, almonds, raisins, dates and copper. The great advantage of the African trade is, that it carries no money out, supplies our plantations with negroes, and brings in a great deal of bullion for negroes sold in the Spanish West Indies.

TO and from the CANARY ISLANDS.

EXPORTS. Bays, kerseys, serges, Norwich stuffs, and other common manufactures, stockings, hats, suitians, haberdashery wares, tin, hard ware, also herrings, pilchards, salted fish, grain, linen, pipe staves, hoops, and some other commodities.

IMPORTS. Canary wine, logwood, hides, indigo, cochineal, and some few commodities which are the produce of the West Indies.

TO and from TURKEY.

EXPORTS. Broad cloths, long ells, tin, lead, some iron, some French and Lisbon sugars, and some bullion.

IMPORTS. Raw silk, grogram, yarn, dying stuffs, drugs, soap, leather, cotton, oil, some fruit, as currants, raisins, vitriol, sulphur, opium, galls, balsm, box-wood, mohair. The balance of this trade is thought to be in our favour.

TO and from ITALY.

EXPORTS. Broad cloth, long ells, bays, druggets, callimancoes, camblets, and other stuffs, leather, tin, lead,

334 EXPORTS and IMPORTS of GREAT BRITAIN.

fish, as pilchards, herrings, salmon, Newfoundland cod, ling, legwood, &c.

IMPORTS. Raw, thrown, and wrought silks, wine, oil, soap, olives, some dyers wares, anchovies, brimstone, carpets, scented gloves, necklaces, and some other things. The balance of this trade is thought to be considerably against us.

To and from SPAIN.

EXPORTS. Broad cloth, druggets, callimancoes, bays, stuffs of divers kinds, leather, fish, tin, lead, linen, corn, &c.

IMPORTS. Wine, oil, fruits of divers kinds, wool, indigo, cochineal, and dying stuffs, rent, &c. The balance is supposed but very small in our favour.

To and from PORTUGAL.

EXPORTS. Broad cloth, druggets, bays, longells, callimancoes, perrets, says, kerseys, flannels, and all sorts of stuffs; also tin, lead, leather, fish, corn, and other things.

IMPORTS. Wine, oil, salt and fruits, as oranges, lemons, almonds: as also figs, saffron, soap, white marble, liquorish, flumack. There is a considerable balance in our favour.

To and from FRANCE.

EXPORTS. Tobacco, horn plates, tin, some lead, some flannels, corn in time of scarcity, wool, coals and allum.

IMPORTS. Wine, brandy, linen, fine lace, fine cambricks, cambrick lawns, brocades, velvets, salt, paper, prunes, chestnuts, &c. There is here a balance against us of no less than 500,000 l. per ann.

To and from FLANDERS.

EXPORTS. Serges, a few flannels, a very few stuffs, sugars, tobacco, tin and lead.

IMPORTS. Fine lace, fine cambrick, and cambrick lawns, whitened linens, threads, tapes, incles, and divers other commodities, to a very great value. The balance

EXPORTS and IMPORTS of GREAT BRITAIN. 335

is very much against us, being at least 250,000*l.* per annum.

To and from HOLLAND.

EXPORTS. Broad cloth, druggets, long ells, stuffs of a great many sorts, leather, corn, coals, tobacco, rice, ginger, pitch, tar, with East India and Turkey goods.

IMPORTS. Great quantities of fine holland, thread, tapes, incle, whale fins, brass battery, madder, lintseed, flax, argol, wainscot, clapboard, paper, &c. The balance is considerably for us,

To and from GERMANY.

EXPORTS. Broad cloth, druggets, long ells, stuffs, ferges, tobacco, sugar, ginger, tin, lead, East India goods, and several other commodities.

IMPORTS. Prodigious quantities of linen, linen yarn, kid skins, tin plates, and a great many other commodities. The balance is very near as much against us in this trade, as in that of France.

To and from DENMARK, SWEDEN and NORWAY.

EXPORTS. Guineas, crown pieces, bullion, some tobacco, a few coarse woollens, meal, malt, beef, tallow, salt, coal, some linen, lead, butter and herrings.

IMPORTS. Deal boards, fir timber, spars, planks, iron, and copper, wire of iron and copper, tar, wainscot, pipe flaves, great guns, mortars, bullets. We pay them a very great balance, amounting to near 390,000*l.* per annum.

To and from RUSSIA.

EXPORTS. Some coarse cloth, long ells, worsted stuffs, tin, lead, tobacco, and a few other commodities.

IMPORTS. Hemp, flax, linen cloth, linen yarn, Russia leather, iron, furs, pot ashes, timber, train oil, tallow, &c. to an immense value. The balance is against us here 400,000*l.* per annum.

To and from NEW ENGLAND.

EXPORTS. All sorts of woollen manufactures, linen, sail-

330 **EXPORTS and IMPORTS of GREAT BRITAIN.**

cloth and cordage for rigging their ships, haberdashery, hard ware, &c.

IMPORTS. Pitch, tar, and turpentine, with some skins, pipe staves, masts, pine, cedar, &c.

To and from New-Jersey, New-York, and Pennsylvania.

EXPORTS. Broad cloth, kerseys, druggets, serges and manufactures of all kinds.

IMPORTS. Gold and silver, with some small quantity of wheat, flax, and hemp.

To and from VIRGINIA and MARYLAND.

EXPORTS. All manner of cloathing and household goods, iron manufactures of all sorts, saddles, bridles, brags and copper wares, and, in short, a part of all our manufactures.

IMPORTS. Tobacco, both for home consumption and re-exportation, tar, pitch, turpentine, and some lumber.

To and from CAROLINA

EXPORTS. The same commodities as to Virginia, viz. cloths, and all sorts of manufactures.

IMPORTS. Rice, deer skins, buck skins, beaver, and some quantity of raw silk and tobacco.

To and from the SUGAR PLANTATIONS.

EXPORTS. Cloathing of all kinds, both linen, silk, and woollen, wrought iron, brags, copper, all sorts of household furniture, and a great part of their food.

IMPORTS. Sugar, ginger, rum, molasses, cotton, indigo, cocoa nuts, pimento, tamarinds, lime juice, some gold and bullion from Jamaica to the value of 539,500*l.* per annum, from Barbadoes to the value of 146,600*l.* from the Leeward islands, viz. Antigua, St. Christopher's, Nevis, Montserrat, Bermuda, Anguilla, Spanish Town, Tortolo, and the rest of the Virgin islands, to the value of 642,870*l.*

To and from FAIRLAND.

EXPORTS. Beaver skins, and beaver wool, French

indigo; beer, ale, and cyder; old and new drapery; salt, pitch and tar; books, bark, bottles; silk, raw, thrown, and manufactured; cambrics, hollandes, lawns, muslins; cotton, silk and thread stockings; worked and silk ditto, and breeches; calicoes; silk and hair shags; silk ribbons, cottons, mohair-buttons, satins, cheques, taps, kennings; gold and silver, thread and lace; bone lace, linsey-woolseys, camblets, millenary wares; cheese, hoops, hops, chalk and whiting; dye stuffs, drugs, wrought plate, china ware, earthen ware, hard ware, tin plates, blocked-tin, sugar, sugar molds, teas, groceries, fruits and spices; Turkey coffee, liquorice, logwood, cochineal, seeds, ivory the bones, tobacco, malt, wheat and flour; bats, barley, looking-glass plates, drinking and other glasses; iron, steel, sheet lead; white, red and black ditto; flax and flax seed; iron, and sheet ditto; mahogany, hogs bristles, colours, battery and brails shuff; goats hair, Spanish and English wool, bees wax, copper plates, Pistachio nuts, almonds, rice, Turkey figs; wool cards, spaw water, bricks, rhenish wines; salt petre, mustard, red wood, cotton, wool, buck and doe skins; pins, needles, crimins, Turkey cotton, elephants teeth, pewter, flints, toys, hats, ivory and horn combs; hollow sword blades, coals, flates, snuff.

IMPORTS. Linens and linen yarn: wool, woollen and worked yarn; copper ore, beef, butter, pork, tallow; oats and oatmeal (to North Britain) rabbits fur and skins; hides; kid, calf, goat, lamb, otter and fox skins; pelts, ox horns, glue, usquebagh, feathers, quills, candles, soap, and some other inconsiderable articles.

Alphabetical List of ENGLISH MANUFACTURES,
with the best MARKETS for the purchase of
them.

BAYS, double, single and mimikin, are made at Colchester, Bocking, Braintree, Witham, Cogeshill, and some other towns in Essex, and at Manchester.

Blankets. In Oxfordshire, Yorkshire and Wales

Brass and copper, cast, viz. into statues, into battery, as pots, sauce pots, kettles, &c. and afterwards hammered; black beaten for clock work, jacks, &c. Foundry ware, as cannon, mortars, apothecaries mortars, bells, pipes, wheel and mill work, buttons, coach and upholsterers nails: wrought and hammered, clock work, jack work and mill work, kitchen ware, clocks and dials, monuments, plate brass, and toys: in and about London.

Broad cloth, mixed or medley cloths in Wiltshire, Somersetshire, Kent, Surrey, and Devonshire. Plain white cloths for dying, at Salisbury, Worcester, Cirencester, and all parts of Gloucestershire.

Caps, high crowned, for seamen, called Monmouth caps, at Bewdly in Worcestershire.

China, at Bow in Middlesex, at Liverpool, and at Worcester.

Coarse woollens, as rugs, chair coverings, pennillions, half thick, duffels, &c. in Cumberland, Westmoreland, and Lancashire.

Cottons, in Westmoreland, Lancashire and Glasgow.

Dozens, or narrow woollen cloth mixed, at Leeds, Wakefield, Bradford and Huddersfield in the West Riding of Yorkshire.

Druggets, in Wilts, Somerset and Berkshire.

Duross, in the same places.

Flannels, Salisbury, Shrewsbury, and Wrexham in Wales.

Prizes at Worcester, and parts adjacent.

Glass, fine flint, including all sorts of drinking glasses, cruetts, phials, retorts, case bottles, decanters, sconces, branches, toys, watch glasses, tubes and optic glasses, at London, Bristol, Stourbridge, Nottingham, Sheffield, and at Newcastle.

—Looking glasses, coach glasses and sashes, at London.

—Crown glass for windows, ordinary sashes, pictures, and ordinary quarrel glass, at London, Bristol, Stourbridge and Newcastle.

Green glass, for bottles, phials, retorts, and melons, at London, Bristol, Leith, Gloucester, Stourbridge and Newcastle.

Hats, felt, at Leicester and Warwick. Castors in Derby. B-ivers in London

Iron, cast into guns, shells, cylinders, cannon, small arms, bombs, hand grenades, chimney backs, pots, water-pipes, furnaces, plates and bars, and retorts, at Coddbrookdale, Shropshire, at Crowley's iron manufactories in Greenwich, Newcastle, and at Carron in Scotland.

—Forged edge tools, knives and scissars, cutlery ware and toys, nails, hinges, hooks, spikes, cocks, keys, razors, surgeons instruments, and cloutiers and other sheers, at London, Birmingham and Sheffield.

—Hammered, chains, anchors, crows, tires, ballistres, rails, espaliers, palliades, gratings, bar-iron, and screws, at London and Newcastle.

—Milled, hoops and all-split and flatted iron, springs for clocks and watches, London.

Kerseys, or coarse cloths, Bradford, Halifax, Rochdale, Guildford, and the circumjacent country.

—Devonshire kerseys in Devon and Somersetshire.

Lead, pigs and sows for exportation; sheet lead, milled or cast for covering buildings, sheathing ships, coffins, basons or fountains.

—Cast lead, for statues and pipes, bullets, small shot,

moulds, letharge, calcined lead, &c. at London and Newcastle.

Lindley-woolsey, for hangings, Kidderminster and Worcester.

Long ells, or perpets, at Tiverton, Sudbury and Colchester.

Manchester ware at Manchester.

Narrow woollens. See dozens.

Perpets. See long ells.

Plaidings, at Coventry, and in Scotland.

Sackings, at Wantage and Newberry, Berks.

Says, at Sudbury.

Serges, in Wilts, Somersetshire and Berkshire.

Shalloons, Northamptonshire, West Riding of Yorkshire,

Berkshire, Somersetshire, Wiltshire, Hampshire, Carlisle,

Edinburgh, Stirling and Musselburgh.

Silks of various sorts. in Spittlefields.

Stockings, woven, Nottinghamshire, Leicestershire, Derbyshire, Warwickshire and Spittlefields.

—Knit yarn, in Gloucestershire, Yorkshire, Worcestershire,

Derbyshire, Northampton, Kendal and Aberdeen.

Stuffs, Norwich, Spittlefields, Bristol, Darlington and

Durham.

Tammys, or Coventry ware, at Coventry.

Tapestry, at Fulham in Middlesex.

Tin, blocks for exporting, pewter moulds and solder,

London.

Velvets, in Spittlefields, and a sort at Manchester.

Perhaps it may not be amiss to add, that butter in skins is the produce of Suffolk, Yorkshire, Durham, Cumberland and Northumberland; cheese of Cheshire, Wiltshire, Warwickshire, Gloucestershire and Suffolk; red berries come from Yarmouth; coals from Northumberland, Durham and Bristol; malt from Herefordshire, Essex, Bucks, Kent, Oxford and Berks; pickled salmon and eggs from Berwick upon Tweed.

A TABLE, shewing the value of Portugal Pieces in Pounds, Shillings, and Pence Sterling.

PORTUGAL PIECES.

Numb of Pieces.	at 3 12 0 l. s. d.	at 1 16 0 l. s. d.	at 0 18 0 l. s. d.	at 1 7 0 l. s. d.
1	3 12 0	1 16 0	0 18 0	1 7 0
2	7 4 0	3 12 0	1 16 0	2 14 0
3	10 10 0	5 8 0	2 14 0	4 1 0
4	14 8 0	7 4 0	3 12 0	5 8 0
5	18 0 0	9 0 0	4 10 0	6 15 0
6	21 12 0	10 12 0	5 8 0	8 2 0
7	25 4 0	12 16 0	6 6 0	9 9 0
8	28 16 0	14 8 0	7 4 0	10 16 0
9	32 8 0	16 4 0	8 2 0	12 3 0
10	36 0 0	18 0 0	9 0 0	13 10 0
20	72 0 0	36 0 0	18 0 0	27 0 0
30	108 0 0	54 0 0	27 0 0	40 10 0
40	144 0 0	72 0 0	36 0 0	54 0 0
50	180 0 0	90 0 0	45 0 0	67 10 0
60	216 0 0	108 0 0	54 0 0	81 0 0
70	252 0 0	126 0 0	63 0 0	94 10 0
80	288 0 0	144 0 0	72 0 0	108 0 0
90	324 0 0	162 0 0	81 0 0	121 0 0
100	360 0 0	180 0 0	91 0 0	135 0 0

Note, The bank of England nor Stamp office take no pieces of gold that want above 6 grains in weight.

A TABLE shewing
the value of Pistoles
and Louis d'Ors, in
pounds, shillings,
and pence.

A TABLE shewing what each
of the following Pieces should
weigh: Likewise the value of
Gold, and Silver per ounce,
pennyweight, &c.

Louis d'Ors, at	Pistoles at	Coins.	Value	Weight	
				at 3l. 18s. per oz.	at 3l. 18s. per pwt. gr.
l. s. l. s. d.		l. s. d.			
1 4 0 16 6		A Portugal piece 3	12 0 18	11 $\frac{1}{16}$	
2 8 1 13 0		Half ditto —	1 16 0	9 5 $\frac{1}{4}$	
3 12 2 19 6		Quarter ditto	0 18 0	4 14 $\frac{1}{2}$	
4 16 3 6 0		Eighth ditto —	0 9 0	2 17 $\frac{1}{4}$	
6 0 4 2 6		Sixteenth ditto	0 4 6	1 3 $\frac{1}{2}$	
		A Moldore —	1 7 0	6 22 $\frac{1}{16}$	
7 4 4 19 0		Half ditto —	0 13 6	3 11	
8 8 5 15 6		Quarter ditto	0 6 9	1 17 $\frac{1}{4}$	
9 12 6 12 0		A Guinea —	1 1 0	5 7 $\frac{1}{16}$	
10 16 7 8 6		Half ditto —	0 10 6	2 16 $\frac{1}{4}$	
12 0 8 5 0		Louis d'Ors —	1 4 0	6 6	
		Half ditto —	0 12 0	3 3	
Value of Gold.					
24 00 16 10 0			l. s. d.		
36 00 24 15 0					
48 00 33 0 0		1 Pound is worth —	48 6 0		
60 00 41 5 0		1 Ounce — — —	4 0 0		
72 00 49 10 0		1 Pennyweight — — —	0 4 0		
		1 Grain — — —	0 0 2		
Value of Silver.					
84 00 57 15 0					
96 00 66 0 0		1 Pound is worth —	3 0 0		
108 00 75 5 0		1 Ounce — — —	0 5 0		
120 00 82 10 0		1 Pennyweight — — —	0 0 3		
		1 Grain — — —	0 0 1		

An ACCOUNT of the principal FOREIGN COIN S.

	Sterling.			Sterling.	
FRENCH.	l.	s. d.	GERMAN.	l.	s. d.
LIVRE	0	0 10 $\frac{1}{4}$	Dollar	0	4 6
Old Ecu	0	2 7 $\frac{1}{2}$	Ducat	0	7 6
New Ecu	0	4 6	ITALIAN.		
Pistole	0	16 0	Justine	0	4 9
Louis d'Or	1	4 0	Monaco	0	4 4
SPANISH.			Croifat	0	4 4
Real	0	0 6 $\frac{3}{4}$	Sequin	0	9 2
Piafter	0	4 6	RUSSIAN.		
Pistole	0	17 6	Cope of silver	0	1 1
PORTUGUESE.			Cope of gold	0	1 9
Mi-moeda	0	13 6	DANISH.		
Moeda d'Ono	1	7 0	Horse	0	1 1 $\frac{1}{2}$
Doppio-moeda	2	14 0	Mark Lubbs	0	1 0
Ducat	6	15 0	Schedel	0	3 0
DUTCH.			SWEDISH.		
Silver	0	0 1 $\frac{1}{4}$	Christine	0	1 1 $\frac{1}{4}$
Scalin	0	0 7	Caroline	0	1 5 $\frac{1}{4}$
Guilder	0	2 0	Mark	0	0 2 $\frac{1}{4}$
Dollar	0	0 0	SWISS.		
FLEMISH.			Roup	0	0 4 $\frac{1}{4}$
Styver	0	0 1 $\frac{1}{4}$	Abra	0	1 0 $\frac{1}{4}$
Skilling	0	0 7 $\frac{1}{4}$	TURKISH.		
Guilder	0	2 0	Shake	0	0 3 $\frac{1}{4}$
Rix-dollar	0	4 6	Scanderoon	0	0 3 $\frac{1}{4}$
Imperial	0	11 3	Para, or Paraf	0	0 1 $\frac{1}{4}$
GERMAN.			Sequin	0	9 0
Izolette	0	2 9			
Guilder	0	3 0			

A TABLE shewing the hour of the day by any sick,
or walking sick, divided into ten parts.

Before Noon.		After Noon.															
		12	11	10	9	8	7	6	5								
I { 11 11 } I	5b	6	7b	9c	13b	19a	50b	57a									
	5b	6	7b	10	13c	19b	30	59									
M { 21 2 } I	5c	6b	7c	10	14	20a	32	65a									
	6a	6c	8a	10c	14c	21b	35	78b									
A { 30 2 } A	7	7b	9	11b	16	23	40	108									
	7c	8a	10	12c	17b	26b	48	195									
M { 20 2 } A	8c	9a	11	14	19b	30a	62a										
	10	10b	12a	21	22a	30b	92a										
M { 20 2 }	11a	12	14	18	26	46	182										
	13	13c	16	21	31a	62c											
F { 18 3 }	15	16	18c	24c	39	97a											
	17b	18b	22	29c	51	210											
I { 19 2 }	20b	21c	26	36	70												
	24	25b	31	46	110												
D { 21 1 }	28	29c	37	59	208												
	32	40	44	76	829												
D { 21 1 }	36	39	51	97													
	30	21															
D { 21 1 }	40	43c	59	126													
	44b	56b	117														

The Use of this Table.

TAKE a rule, or a walking stick of any length, and with the compasses, or otherwise, divide it into ten equal parts, by nine notches therein, or small brass nails.

To know the Hour of the Day.

Set the stick upright, on some plain level ground (the sun shining on the staff, and mark where the shadow of the stick ends, then measure the length of the shadow, if the shadow was one stick's length and a half, that is sixteen parts.

E X A M P L E.

Suppose that on the 22d day of February, I found the length of the shadow of my staff, two sticks length and two parts, that is twenty two parts in all

First, I look into the table for February, or F. the 22d day, but I take the nearest, that is the 18

Secondly, Having found the nearest day of the month, as 18, from thence I draw my finger along the line towards my right hand to find the nearest number to the 22 part of my stick's shadow, and I find 22. Then I cast my eye above this 22 to the top of the table, and I find 10 and 2, so that it is either 10 o'clock in the morning, or 2 in the afternoon.

Note, That 19 a in the top-line stands for 19 parts, and the a for a quarter of a part. And b signifies half a part. And c three quarters of a part.

A TABLE shewing the DOMINICAL LETTERS
from 1771 to 1800.

1771—F	1781—G	1791—B
72—E D	82—F	92—A G
73—C	83—E	93—F
74—B	84—D C	94—E
75—A	85—B	95—D
76—G F	86—A	96—C B
77—E	87—G	97—A
78—D	88—F E	98—G
79—C	89—D	99—F
80—B A	90—C	80—E



Tradesmen's METHOD for marking their Goods for
Sale, with SPECIMENS.

IT saves the trader's memory from a load that would encumber it, or prevents his running frequently to his bills of parcels, where his memory is deficient, if he has certain marks of his own, and peculiar to himself, that stand for the ten digits, whereby he may put not only the price his goods cost him, in some private corner * of the thing or parcel, and likewise what he proposes to sell at, which is an immediate direction to him when a customer demands the price; but such private marks will be highly useful in keeping his day-book, in marking the cost price instead of figures. The following are specimens of this method.

1 2 3 4 5 6 7 8 9 10 1 2 3 4 5 6 7 8 9 10
FAIR CUSTOM. GOD SPARE IT.

Thus the words as above, FAIR CUSTOM, GOD SPARE IT, having ten letters each, they represent the ten fi-

gures, and to expreis pounds, shillings, and pence, place them as sums, and you may put down any sum you please, i. e. ai s. m. or 23 l. 7 s. 10 d. because ai. s. m. in the words FAIR CUSTOM, are 2, 3, 7, 10. Again, g. f. t. or 1 l. 4 s. 10 d. are in the words GODSPARE IT; and so of every sum great and small. Now, to distinguish the price goods cost from the selling price, a different place may be chosen; or else it may be the custom to place one above the other, with a line between, to render it more puzzling to another person, as,

a. s. or 2 l. 7 s.
r. o. or 4 l 9 s.

Another good method is to invert the order of the ten figures, and call

1, 2, 3, 4, 5, 6, 7, 8, 9, 10,	10, 1, &c. as,
10, 9, 8, 7, 6, 5, 4, 3, 2, 1.	

So 1 l. 2 s 8 d. would be 10, 9, 3, &c.



A RULE to find when SHROVE TUESDAY, EASTER, WHITSUNDAY, and HOLY THURSDAY shall happen.

OBSERVE when the moon is new in February, the next Tuesday after is Shrove-Tuesday, but if it change on Tuesday, then the next Tuesday after is Shrove-Tuesday; the seventh Sunday after Shrove-Tuesday is Easter-day; and seven weeks after Easter-day is Whitsunday; and the Thursday before Whitsunday save one is Assenſion-day, or Holy Thursday.

A TABLE shewing what Day of the Week begins
any Month for ever.

Months	A	B	C	D	E	F	G
January	Sun.	Sat.	Fri.	Thur.	Wed.	Tuef.	Mon.
February	Wed.	Tuef.	Mon.	Sun.	Sat.	Fri.	Thur.
March	Wed.	Tuef.	Mon.	Sun.	Sat.	Fri.	Thur.
April	Sat.	Frid.	Thur.	Wed.	Tuef.	Mon.	Sun.
May	Mon.	Sun.	Sat.	Fri.	Thur.	Wed.	Tuef.
June	Thur.	Wed.	Tuef.	Mon.	Sun.	Sat.	Fri.
July	Sat.	Fri.	Thur.	Wed.	Tuef.	Mon.	Sun.
August	Tuef.	Mon.	Sun.	Sat.	Fri.	Thur.	Wed.
Septem.	Frid.	Thur.	Wed.	Tuef.	Mon.	Sun.	Sat.
October	Sun.	Sat.	Fri.	Thur.	Wed.	Tuef.	Mon.
Novem	Wed.	Tuef.	Mon.	Sun.	Sat.	Fri.	Thur.
Decem.	Fri.	Thur.	Wed.	Tuef.	Mon.	Sun.	Sat.

This table is very plain; for having the dominical letter for the given year, find that on the head, and guide your eye down from it till it come right against the month, and there is the name of the day of the week that begins that month.

A Perpetual Almanack that shews the Day of the Month
- for ever.

G	F	E	D	C	B	A
Sund.	Mond.	Tuef.	Wed.	Thur.	Fri.	Sat.
April	Sept.	June	Feb.	Aug.	May	Jan.
July	Dec.	June	March Nov.	Aug	May	Oct.
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31	00	00	00	00

The Explanation.

If G is the Dominical Letter, then 1, 8, 15, 22, 29, are Sundays of April and July, and the 2, 9, 16, 23, and 30 of September and December.

If F is the Dominical Letter, you have all the Mondays of the Month on the 1, 8, 15, 22, 29, &c.

When E, all the Tuesdays. When D, all the Wednesdays. When C all the Thursdays. When B, all the Fridays. And when A all the Saturdays.

There are always 2 Dominical Letters in leap Year, the first holds to St. Mathias the 25th of February, and the latter all the Year after.

A Table of the Sun's Rising and Setting.

Sun Rise		S. Set		Sun Rise		S. Set	
Jan.	H.	Jan.	D.	July	H.	July	Aug.
M.				M.			
D. 1	8	43	56	3	53	8	7
11 7	7	51	9	4	47	56	56
21 7	7	36	24	4	21	7	39
	Feb.				Aug.		
1 7	14	44	46	4	38	7	22
11 6	55	55	51	4	56	7	4
21 6	38	35	22	5	16	6	44
	March				September		
1 6	20	5	49	5	38	6	22
11 5	58	86	21	5	58	6	2
21 5	38	86	22	6	18	5	42
	April				October		
1 5	16	44	44	6	39	5	21
11 4	56	7	41	6	58	5	24
21 4	38	7	22	7	17	4	43
	May				November		
1 4	22	7	38	7	35	4	25
11 4	67	54	11	7	54	4	6
21 3	55	8	52	8	63	3	54
	June				December		
1 3	46	8	14	8	14	3	46
11 3	49	8	11	8	17	3	43
21 3	45	8	15	8	15	3	45

A LIST of the STAGES between LONDON and EDINBURGH;

358

East Road.			West Road.		
EDINBURGH			EDINBURGH		
	Dist. from each	Dist. from Edin.		Dist. from each	Dist. from Edin.
Haddington	16 3/4	39 1/2	Middleton	19 3/8	39 1/2
Dunbar	27 3/4		Bankhouse	21 3/10	
Old-Cambus	37 3/4		Selkirk	36 3/8	
Berwick	53 3/8		Hawick	46 3/4	
Belford	68 3/2		Meaf-Paul	58 3/3	
Alnwick	83 3/8		Langholm	68 3/2	
Morpeth	102 1/2		Longtown	78 3/2	
Newcastle	116 2/5		Carlisle	90 3/4	
Durham	131 3/6		Pemrith	109 1/8	
Darlington	149 2/2		Shapp	124 7/1	
Northallerton	164 2/2		Kendal	135 3/5	
Borrowbridge	183 3/8		Burton	147 2/4	
Wetherby	195 1/6		Lancaster	158 3/3	
Aberford	203 1/8		Garfang	169 2/2	
Ferrybridge	213 1/7		Preston	180 2/1	
Doncaster	228 1/3		Wigan	197 1/4	
Barby-moor	242 1/4		Warrington	216 1/8	
Tuxford	252 1/2		Grulm	230 1/7	
N-wark	266 1/1		Brewerton-Green	249 1/2	
Gran ham	280 1/1		Newcast. un. L.	243 1/8	
Colefworth	288 1/3		Stone	251 1/4	
Stamford	301 90		Great Haywood	261 3/10	
Walsford	307 84		Lichfield	274 1/7	
Silton	315 76		Cole-hill	289 1/2	
Welfon	322 64		Coventry	300 91	
Begden	329 62		Dunchurch	308 83	
Eaton	335 56		Davenry	320 71	
Biglswade	345 46		Towcester	328 63	
Baldock	353 38		Stony-Stratford	337 54	
Stephenge	359 32		Little Brickhill	347 44	
Wellwyn	365 26		Dunstable	357 34	
Hatfield	371 20		St. Albans	369 22	
Barnet	379 12		Barnet	379 12	
LONDON.	391		LONDON.	391	
From Edin. by Coldstream.			From Edin. by York.		
Blackniell	14		Northall. as above	164	
Norton	11 2/5		Thirke	9 7/3	
Greenlaw	12 3/7		Eastwold	10 18/3	
Co mill	11 4/8		Y O R K	13 1/6	
Woolerhaughed	14 6/2		Tadcaster	11 1/7	
Whittingham	10 7/2		Ferryb. as above	11 2/8	
W alton-Mill	10 8/2				
Mo peth, &c. as above	10 9/2				



A N

English Spelling Dictionary.

A B R

A C K

A D V

A BANDON

abate

abandon

abatement

absence

action

abashment

absolve

actor

abate

absolute

adapt

abatement

abstemiousness

adder

abbacy

abstraction

addition

abbels

abstruse

address

abbot

absurd

adhere

abbreviation

abundance

adjacent

abdicate

abule

adieu

abdication

academy

adjoin

abdomen

accept

adjournment

abet

accessor

adjudge

abettor

accident

admission

abhor

acclamation

administration

abhorrence

accommodate

admirableness

abject

accompany

admiralty

ability

accomplish

admit

abduration

accomplishment

admonish

aboard

accord

adopt

abouishment

account

adorable

abominable

accuracy

adornment

abortion

accused

advancement

abound

accusation

advantageous

abridgment

accuse

adventure

abroad

acid

adversary

abrupt

acknowledgment

advertisement

A L I

A R M

B A N

advice	allegiance	arraignment
adult	allegorical	arrogance
adulteration	alleviate	arrogate
advocate	alligation	arsenal
affability	alligator	asparagus
affair	allowance	aspiration
affection	almanack	associate
affectionate	almighty	astwage
affective	aloes	astonish
affiance	alphabetically	astrologer
affidavit	already	astronomy
affinity	alteration	atrocious
affirm	alternate	attribute
affirmatively	amain	avail
affix	amass	avoice
affluence	amicableness	auctioneer
afford	amusement	authority
affront	anabaptist	axelree
affusion	analogy	azure
aforehand	analysis	
aggrandize	anarchy	Batchelor
aggravate	anatomy	backslide
aggravation	ancestors	backward
aggression	anchovy	backwardness
agility	animadversion	bag-pipe
agitate	anniversary	baliff
agonize	annoy	balance
agreeableness	antichamber	balcony
agreement	antimonarchical	baldaufs
agriculture	antichristianism	bale
aground	antipodes	baful
alabaster	apparatus	ballad
alghymist	apparition	ballustrade
alderman	applicable	Barbury
algebra	archdeacon	banditti
aliment	archbishop	bandolier
	armada	baneful

B A T	B E S	B L A
Bangor	battalion	Belridden
banker	bawdry	Belshelert
bankrupt	baynard	belthought
Bankhead	beacon	Betony
Barbadoes	beadle	betroth
barbarians	headsman	bevel
Barbary	beard	beverage
barbed	beast	Beverley
barbel	beatific	bewildered
barbels	bean	bewich
Barbican	beaver	bidder
Barmore	beauty	bigotism
Barbote	beaux	bilboes
Barbny	Beckingham	bilious
Barstaple	becomingness	Bellericay
barometer	bedaggle	billet-doux
barrack	bedaub	Billingford
barricado	Bedford	bind
barrier	Bedford	Bingham
barriker	Bedlam	biographer
barter	beech	biograph
Barton	Beelzebub	bird-call
base	besom	bird-lime
basful	beggary	Birmingham
basil	belcagner	bishoprick
basilisk	Belford	biffertile
Basingstoke	belfrey	bittern
Bassa	bellow	bitumen
Bassaley	belswagger	blabber
basset	Beltingham	Blackburn
bastoon	Belvidere	blackmoor
bast-relief	bemire	blackness
bastile	Bemister	blacksmith
bastinado	bergamot	bladder
bastion	Berlin	blameable
bastwick	bespeckle	Blandford
battoon	bespinkle	blanket
		blaspheme

An English Spelling Dictionary.

1755

B O S

B U D

B U N

blazon	Boston	Buddeldale
bleak	botanical	buddle
bleat	botcher	budge
blindfold	bought	budget
blinkard	boling-mill	buff
bliche	bounce	buffe
blockade	boundary	buffoonery
blockhead	bounceness	bug
bloodshed	bowelled	bugger
blissom	bowling-green	buggle
blunder	boyish	bugle-horn
bluntness	braggadocio	build
boaster	brandless	builder
boatwain	brand-iron	building
bobtail	brandish	baile
bodice	brandling	bulb
boggy	brandy	bulbous
boiler	Brasil	bulfnch
boisterous	bravado	bulge
boldness	brawler	bulk
bolster	brawn	bulkiness
bombardier	breast-plate	bulky
bombast	breches	bull
bombazine	breeding	bullace
bondage	Brentford	bull-baiting
bonfire	breviary	bullet
bonnet	brew-house	bull-herd
booby	bride-groom	Bullingbrook
bookbinder	Bridewell	bullion
book-keeping	brigade	bullock
bookfeller	brigandine	bully-rock
book-worm	brigitine	bulrush
boorish	brow-beaten	bulwark
bopsep	bucksmenels	bum
bordage	buckthorn	bumble
borrower	buckweed	bumpkin
Bosphorus	bud	bunch

B U R

B Y

C A R

C

bunchiness

burfe

bunchy

burfer

Calvinist

bun

burst

calumniate

bundle

bursten

cambric

bung-hole

burstiness

cameleon

bungle

Burton

camlet

bungler

bury

camomile

buntur

bush

camoaigna

bunting

bushel

Campden

Buntingford

bushy

camphire

buoy

busily

Canary-bird

buoying

business

cancer

bur

buskin

candidate

burden

bust

Candlemas

burdensome

bustle

candour

burdensomeness

busy

Canibal

bureau

but

canker

burgess

butcher

canonical

burgh

butchery

canonship

burgher

butler

canopy

burglar

butter

Canticles

burgomaster

butterfly

canvals

burial

butter-milk

capacious

burlesk

butock

cap-a-pee

burly

button

caper

burn

buz

capital

burning

buzzard

capitol

burning-glass

by

capon

burning-iron

by-ends

captain

burnish

by-lands

captious

burnisher

by-laws

captive

Burnley

by-place

capture

burnt

by-way

capuchine

bur

by-word

carabineer

burrow

by-word

caravan

Burrowbridge

by-word

carbacule

Burrowbridge

by-word

carcase

C A T	C H A	C H O
cardinal	cathedral	chaplet
career	catholic	character
careful	caterwauling	charcoal
careless	cavalcade	chargeable
cargo	cavalier	chariot
carlings	savaly	charitable
carmine	caveate	charmer
carnal	cavern	charnel-house
carnation	cavernous	chart
carnaval	cauldron	charter
carnivorous	caustic	chaste
Carolina	caution	chasten
carouse	cautiously	Chatham
carpet	celebrate	chattels
carpenter	celerity	cheap
carriage	cement	cheques
carrier	censor	cheer
cartion	centaur	cherish
Cartesian	centinel	cherry-stone
Cartusian	century	cherubim
cartilage	Cerberus	Cheshampton
cartridge	cereimonial	chevalier
cascade	certainly	Chieftess
cathier	certificate	chicken
castick	chaffing-diss	chidingly
Castle-comb	chaife	chief
castrate	Chaldee	chiestain
casual	chaldron	child-bearing
casually	challenge	Childermas
cauist	chamberlain	Childham
catascomb	champion	chimerical
catalogue	cancellor	chimney-piece
catarrh	chancery	China
cataract	change	chirurgeon
catastrophe	channel	chocolate
categorical	chapslain	choïce
catapillar	chapman	cholet

C L A	C O L	C O R
Christendom	clasp	combat
Christmas	clatter	combination
chronologer	clause	comedian
chubbiness	clay	comfortable
church-warden	clean	comical
churchish	clear	comma
chymical	clemency	commandment
chymist	clenchers	commemoration
chymistry	clergyman	commencement
Ciceronian	clew	commedioufulness
circumference	climacterical	comparative
circumflex	cling	complaint
circumfufion	clipper	complexion
circumjacent	clock-maker	complement
circumlocution	clog	comprehension
circumposition	cloister	concise
circumrotation	close	conclusion
circumfcription	clotbier	concoction
circumfpection	cloudiness	concubine
circumstantial	cloven	condemnation
circumvallation	clownishness	confirmation
circumvent	cluster	conformable
circumvolution	coach	conjecture
Cirencefter	coadjutor	conjunction
cistern	cockatrice	connexion
citadel	coddle	conquer
citation	co efficient	conscience
citron	c offehoufe	consumption
civil	cognate	contemplation
civilian	co-heir	controversy
claim	coherence	convent
clandestine	cohabitation	convulsion
clap	cotion	cook
claret	colander	copious
clarification	collection	coquet
clarion	collision	cordial
clash	colloquy	corner

C U Z

D E C

D E T

coronation	cycle	decive
corruption	cycloid	declaimer
cottage	Cyclops	decoction
counsellor	cygnet	decorate
courthip	cylinder	decorum
coward	cymbal	decrepid
coxcomb	cynic	dedicate
coy	cypress	dedication
crack	czar	defamation
cradle	czarina	definition
craft	D	delegate
crag	Dagon	deliberation
crane	dainties	delicacy
crape	damageable	deliciousness
cravat	damnable	delightful
crayon	dampishness	delineate
crew	dandelion	delinquent
crimson	dangerous	delirious
crowd	Darlington	deliverer
cruel	Dartmouth	demi-god
crumb	daughter	democracy
crystal	daunderfulness	dependance
cuckold	Dauphin	deplorable
culpable	deaconship	deposition
cultivation	Deal	depravation
cumberfome	deanship	deputation
cunning	death-watch	derivation
cupboard	debauchee	derogate
curable	debenture	derivation
curb	debonairness	desolation
curiosity	decampment	despicable
curry	deceitfulness	despise
curse	deceiver	despond
curtain	December	detect
custody	decemvirate	determinate
custom	deception	detestable
cut	decimation	detrone

D I S	D O U	D W N
diabolical	disprove	downward
dialling	dispute	drapery
dialogue	discrepute	drawback
diamond	disrespectful	draw-bridge
diameter	dissatisfactory	dreadful
diametrical	dissemble	dreamer
dictator	dissimulation	dredging-box
dictionary	dissolute	dripping pan
difficult	dissualful	driveller
diffuse	dissemp	drollery
digestion	distiller	dromedary
dilemma	distinction	dropical
diligence	distinguish	drudgery
dimension	distractiō	druggift
diploma	disstress	Druids
disadvantage	distributor	drum-major
disagreeable	distasteful	dubiousness
disappoint	disturbance	Dublin
disband	dividend	ducatoon
discipline	divination	dudgeon
discommode	divinity	dukedom
discompose	divorcement	dulcimer
disconsolate	divulge	dumblers
discontent	docibility	dunghill
discredit	dock	duskins
discreet	doctorship	dusks
disdain	document	dust
disgraceful	doggedness	duster
dishonesty	dolefully	dustiness
disingenuous	dolphin	dusty
dislocate	domestic	Dutch
disloyal	domineer	dutiful
disobedient	dominical	duty
dishoblige	donation	duumvirate
dispatch	dormitory	dwarf
displeasure	doteril	dwarfish
dispossess	doubtful	dwell

E F R

E M B

E N T

dwelling
dwindle
dyer
dynasty
dysentery
dysury

egregious

Egypt

ejaculation

ejecution

elaborate

elapse

elasticity

elder

election

elegance

elegy

elephant

elevate

eleven

eligible

elixir

ellipsis

elogy

elope

eloquence

elucidate

elucubration

elusion

Elvian

emaciate

embalm

embargo

embark

embassy

embattle

embellish

embuzzle

emblem

embols

embowel

embrace

embroider

embroil

embryo

eminent

emotion

emperor

emphatic

empire

employ

empress

enamel

encamp

enchant

enclosure

encroach

endear

endive

endure

enemy

energy

enervate

enfesible

enfanchise

engage

engine

engrave

engross

enigma

enjoy

enlarge

enlighten

ennoble

enormity

enrich

enrole

ensign

entail

entendre

effusion

effort

effrontery

effulgence

H h

E S Q	E X T	F A N
enterprife	establiſh	extirpate
entertain	eſtimate	extol
enthrone	eternal	extort
enthuſiaſm	Ethiopian	extraſt
entice	etymological	extraordinary
entrails	evacuate	extravagant
entrap	evangelical	extreamly
entreat	eucharift	extricate
envious	event	extrude
envion	evermore	exuberance
enumerate	Euphrates	exuberant
envoy	Europe	exulcerate
ephod	evulſion	exult
epicure	exactor	exultation
epicurean	exchequer	eye
epidemical	exclude	eye-bright
epigram	execute	eye-brow
epileptic	exemplary	eye-ſight
epilogue	exorbitant	eye-ſore
episcopacy	expand	F
epiſode	expectation	Fabulous
epiſtle	expedient	factious
epithet	expedition	facilitate
epitome	expel	faſtion
epitomize	expenſive	faſtor
equator	experiment	faint-heartedneſs
equinox	expiration	fairy
equip	expire	faithful
equity	explain	falcon
equivocal	explanation	fallacious
erector	explication	faſſer
erratic	explicit	familiar
error	expreſs	famine
elſchew	expulſion	famous
elſcurial	expunge	fantatic
elſcutcheon	extend	fantatical
eſquire	extent	fantom

F I C

F L E

F O R

fardingale
 farmable
 farm
 farrier
 farthing
 fashionable
 fallness
 falsuing
 fatality
 fatherless
 faigue
 favourable
 fawningly
 fearfully
 feculent
 fecundity
 feebleness
 fecilitate
 fellowship
 felonious
 female
 feminine
 fermentation
 ferocity
 fervent
 fervency
 fertile
 fervently
 festival
 feudal
 feverish
 fewel
 fibber
 fiber
 ficheness
 fictitious
 fctiousness

fiddle
 fidelity
 fierceness
 figurative
 flanders
 filiation
 filip
 filter
 flitchiness
 flerate
 filtration
 finance
 find
 fineness
 finical
 finisher
 firmament
 firmly
 flirting
 fiscal
 fisher-man
 Pishgard
 fistula
 fixedness
 flagelet
 flaggings
 flagitious
 flagrant
 flagrantness
 flumbeau
 Flanders
 flathiness
 flannels
 flatterer
 flaxen
 fleetness
 Hegmatic

Flemish
 flathiness
 flexibility
 flimsy
 flippantness
 floatage
 flora
 Florence
 florentine
 florid
 floridness
 flounce
 flounder
 flourish
 flouter
 flower-de-luce
 fluate
 fluently
 fluidity
 flumery
 fluxibility
 fodder
 toible
 Fokingham
 foldage
 foliage
 follower
 fomentation
 fool-hardy
 foolishness
 foot-man
 foppety
 forbearance
 forbidden
 forcible
 fordable
 fore-cast

G A I	G E N	G L E
fore-deem	galeons	generation
fore-door	gallantry	generosity
fore-fathers	gallery	generousness
fore-finger	galley-pot	Geneva
fore-front	gallicism	genial
foreigner	gallion	geniculate
fore-knowledge	gallop	gennet
forenoon	galoon	gentee
fore-runner	gambol	gentleman
fore-teeth	game some	gentlewoman
forgetful	gamester	gentry
formality	gamut	genuineness
fornication	gamut	geography
forfake	gang	geometrician
forth-coming	Ganges	Georgics
fortification	Ganymede	germination
fortitude	garbler	gerundive
fortunate	garbles	gestation
forward	gardener	gesticulation
foundation	garland	gewgaws
founding	garment	ghostliness
towing-piece	garnisher	gholly
fragrant	garrison	giant
frailty	Garthang	yibble-gabble
France	gascnade	gibbous
fraternity	gaudiness	giddiness
freehold	gaudy	gillflower
friendship	gazette	ginger-bread
frolicsome ness	gazetteer	gingler
frugality	geese	girl
frying-pan	gelding	girt
tartousness	geminate	gizzard
futurity	geminary	gladiator
	gemmow	gladness
G	gentalogical	glanders
Gaddingly	generalissimo	glazier
gainfully	generality	gleam
Gainborough		

G R A

G R O

H A M

glebe	grand-father	ground-ivy
glebular	grand-mother	group
gloominess	grand-fire	growl
glorification	grant	grubbage
gloriousness	granulation	gruel
glow-worm	gras	gruffness
glutinous	gras-hopper	grumble
Gnatho	gras-plat	guardian
gnomonics	grassy	gudgeon
gnostics	gratefulness	Guild-Hall
goaler	gratification	guileless
goatish	gratings	Guinea
goblet	gratitude	gun
God-father	gratulatory	gun-powder
God-mother	graveness	gush
Golgotha	grayhound	gutter
gondolier	grazier	gymnastics
goose-berry	greasiness	Gymnosophist
gorgeous	greatness	H
germandize	Grecian	Habitation
gossipings	Greece	hab-nab
Gothic	greer-house	Hackney
Goths	greenneis	haddock
governableness	Gregorian	Hadley
governess	grew	Hadenbridge
government	grievousness	haggard
governor	grimace	Haggerden
gracefulness	griffel	Hague
graciously	grittiness	hainous
gradual	grizliness	Halcyon
grammarian	groan	half-moon
grampus	grocery	halliards
granadier	groop	hahoo
granado	groove	hallow
granary	gros	Haltfield
grandee	grotto	hamlet
grandeur	groveling	hammer

H A W	H E R	H O L
hampet.	hawser	heroical
Hampton	hazardous	heroine
ham-string	healthful	herring
handkerchief	health	hesitate
handmaid	hearkener	hesitation
handsomeness	heart-burning	heterodox
handlets	heartiness	hexagon
handy	heath-cock	herameter
hanger-on	heathenism	Hexham
happiness	heavenly	hickup
harangue	Hebraism	hidebound
harass	hecatomb	hideousness
harbinger	hectic	hierarchy
hardly	heedful	hieroglyphic
hair-brained	heifer	Highgate
Harleigh	hellebore	Highworth
harlequin	Hellsport	highness
harmful	hell-hound	Hilary
harmless	hellishness	Hilborough
harmonious	helmet	Hindon
harness	helpful	Hingham
barpooners	helpfulness	hissing
harpichord	Hellion	historian
harshness	belter-skelter	historiographer
Harlepool	hemicycle	hithermost
harthorn	hemlock	Hittites
harvest	henceforth	Hivites
hassock	herbalist	hoarseness
hastiness	Herculean	hobgoblin
Hastingden	hereditary	hodge-podge
hateful	heretically	hogfishness
Hatfield	heretage	hogthead
Haverford	hermaphrodite	Holbach
haughtiness	heremetical	holioak
havock	hermodagyl	holiness
haulboy	hernshaw	Holland
Hawk-head	Herodians	hollowness

H U C	H Y P	J K W
homage	hug	hysteric
home	Hugonot	hysterical
homeliness	humanist	hystericalness
Homer	humanize	
home-spun	humanly	
homicide	humbleness	
honestly	humid	Jacobite
honestness	humidity	jagged
honey-comb	humiliation	jail-bird
honey-moon	humorist	Jamaica
honorary	hunch-backed	Jambic
honourable	Hungary	jangle
hook	hungry	Janizary
hooked	hunks	January
hopeful	hurlers	Japan
hops	hurry	japanner
Horb	hurt	jar
horizon	hurtful	jarгон
horizontally	husband	javelin
Hornet	Hussars	jaundice
horological	Hustings	ichnography
horoscope	hut	iconography
horridness	hutch	ideal
horse-leech	huzza	identical
horsemanship	hydra	idiom
horse-raddish	hydrographer	idiomatically
Hosanna	hydromet	idleness
hospitable	hydrometer	idolatre
host	hydropical	jealous
hostile	hymn	jeerer
hostleness	hyperbole	Jehovah
hot-cockles	hyperbolical	je-june
hotness	hypochondriac	jeopardy
hotch-potch	hypocrisy	jerkin
household	hypocrite	Jessamine
hubble-bubble	hypothetic	jeffer
hufter		Jesuit
		Jesuss
		jeweller

I M M

I M P

I N C

ignoble	immense	impovertish
ignominious	immerge	impracticable
ignoramus	immerse	imprecate
ignorance	immethodical	impregnate
illegal	imminent	impress
illegitimate	immoderate	impression
illicit	immodest	imprimis
illiterate	immoral	imprint
ill-natured	immoveable	imprison
illuminate	immunity	improbable
illumination	immutably	improper
illustrate	impale	improveable
imagery	impannel	improvement
imaginary	impartial	impudence
imagination	impassable	imprudent
imbalm	impatience	impudence
imbargo	impeach	impudent
imbarkation	impenetrable	impugn
imbattle	impenitence	impunity
imbellishment	imperative	imputation
imbezzel	imperfect	inaction
imbibe	imperial	inactivity
imbitter	imperious	inadvertency
imbolden	impertinence	inalienable
imbofom	impetuous	inanimate
imbroider	impious	inarticulate
imbroil	implacable	inaugurate
imbrue	implicit	inauspicious
imitable	implore	incamp
imitative	employment	incapacitate
imitator	impolite	incendiary
immaculate	importation	incense
immanent	importune	incentive
immaterial	imposition	incessant
immature	impossible	incessuous
immediate	imposture	inchauter
immemorial	impotence	incident

I N C

incircle
incitement
inclemency
inclinable
inclosure
include
inclusively
incognito
incoherent
incommode
incompact
incomparable
incompass
incompetent
incomplete
incomposible
incongruous
inconnexion
inconsiderate
inconsistent
inconvenient
incorporate
incorrect
incorrigible
incorrupt
increased
incredibility
incredulous
incroach
inculcate
incumbent
incumbrance
incur
incurable
incurſion

I N N

indebted
indecenty
indecorum
indefatigable
indelible
indemnity
indenture
independent
index
India
Indian
indictment
indifferent
indigence
indigicate
indignation
indignity
indirectly
indiscreet
indiscretion
indiscriminate
indispensible
indisposed
indisputable
indistinct
inditable
individual
indivisibility
indocible
indolence
indorse
indubitable
induce
induction
indulgent
indurable
innumerableness

I V Y

inoculation
inoffensiveness
inordinate
inquiet
involvement
insatiabie
inscription
inseparable
insolent
instrument
insupportable
intemperate
intendment
interment
interwoven
intbralment
intolerable
intrenchment
inveterate
invincible
invulnerable
Joan
Job
jucund
joiner
iron
irrecoverable
Iris
Israel
isthmus
justification
Justinian
juttle
juvenile
juvenileness
juvility
ivy

K I C

K I T

K N O

K	kidder	kittle
Kayage	Kidderminster	klick
kedger	kidnap	klicker
keen	kidnapper	kittering
keenness	kidney	knack
keeper	kidney-bean	knacker
keg	Kigworth	knag
kell	kilderkin	knaggy
Kellington	Kilgareen	knap
Kelmark	Kilham	knappist
kelp	kill	knappishness
kelter	killer	knapple
kemb	kiln	knappy
kembo	kin	knapsack
ken	kind	Knarborough
Kencall	kindle	knave
Kenford	kindly	knaveish
kens	kindness	knavishly
kenel	kindred	knead
kennets	Kineton	kneder
kerb	kingdom	kneel
Kermes	king-like	kneefling
kern	kingly	knell
kernel	Kingbridge	knaw
kerley	Kingisleere	knick-knacks
kerstrel	Kingstone	knife
Keswick	Kingstand	knight
ketch	kinsman	kighthood
Kettering	kinswoman	Knighton
kettle	Kirk-Burton	kuit
Kettlewell	Kirk-Oswald	knitter
key	Kirkstrop-Foot	knob
Keyworth	kirtle	knobby
kibe	kiss	knock
kibe-heels	kitchen	knocker
kick	kittling	knocking
kickshaw	kitten	knoc

L A P	L E G	L I K
knottily	tapping	legible
knottiness	harbord	legislative
knotty	larceny	legitimate
know	harderer	Leicester
knowingly	large	Lemington
knowledge	laviciously	lemonade
knubble	lawyers	lenity
knuckle	latitude	lent
Krickieth	Lateran	leopard
Kyneton	latitude	leprosy
L	latten	less
Labyrinth	laudable	letter
lachrymation	laudableness	L-vant
Laeonic	laudatum	levee
lactation	lavender	Levitical
lady's-bed straw	laughing-flock	lewdness
lambent	launders	L-xicographer
Lamborne	lawless	Lexicon
laments	lax	liableness
lamentable	lay brother	libel
Lammias	Laystoff	libellous
lampadary	Lazeretto	liberality
Lambister	Lazarole	libertine
Lancafter	laziness	librarian
Landaff	lead	license
land-cash	leaf	licentious
Landrino	Learmouth	Litchfield
land-loper	learning	lickorishness
landskip	least	lickors
Langport	lecherous	lie
language	lecture	Lieutenancy
Languard-Fort	Leeds	life guard
languidness	Lecke	lift
languor	leese	ligature
lankness	leetch	lightning
lantern	leeward-way	likelihood
lapidation	legacy	likens

L O F	L O U	L Y
black	log	lousiness
Lilburn	logarithm	Louth
limberneck	logarithmical	Loughborough
limbo	logger-head	Low-Countries
limner	logician	lowness
limonode	log-wood	Lowther
line	loin	loyalness
lineament	loiterer	lozenge
lingerer	Lombard	lubricy
linguist	London	lucidness
liniment	lonesomeness	Lucifer
link-boy	long-boat	lucky
linsey-woolsey	longevity	lucrative
Linton	longitude	lucubration
Lionel	Longnor	Luddeſton
liquor	long-ſhanks	judicious
liſper	long-winded	Ludlow
liſſener	looby	Luffenham
litany	loof	luggage
literally	looking-glaſs	lukewarmly
litigation	loom	luminous
litigious	loon	lumpiſhneſs
Little-borough	loop	lunacy
liturgy	looſeneſs	lunar
likenhood	lop	lunatick
livelineſs	lopper	lung-wort
livivious	loquacious	luſcious
livivuna	loquacity	luſſul
lizard	lordlineſs	luſtineſs
lobby	loſs	lunaſtick
Jobs pound	lot	Luther
localneſs	loſſome	Luton
lockram	lottery	Lutcrworth
locuſt	loutly	luxate
locution	Loughtoun	luxation
lodgment	lovingneſs	luxurious
loſineſs	Louis-d'ors	ly

M A J

M A N

M A R

lycanthropy
Lydford
Lydia
lymphatic
Lyn
lyre
lyrick
lyrist
M
Maccabees
Macclesfield
mace-bearer
macerate
Machivilian
machination
machine
mackerel
madam
mad-cap
maddish
madness
madrigal
magazine
maggot
magic
magician
magisterially
magistrate
magnanimous
magnet
magnificat
magnificence
magnify
mag-pye
Mahometan
maiden
majestic

mail
main-mast
main-prize
maintain
maintenance
major
malady
Malaga
male-content
malefaction
malevolence
malice
maliciousness
malign
malignancy
malkin
mallard
Malling-Well
mallows
Malmsbury
malmsley
Malpas
maltster
Malvern-Magna
Malwood-Cattle
mamma
mammoth
management
Manchester
mandamus
mandarin
mandate
mandrake
manfulness
mange
mangle

mango
manhood
Manichees
manifesto
mankind
manliness
manna
mannerly
Manningtree
Mansfield
man-slaughter
mantean
mantlet
manual
manufactory
manure
manuscript
maple
marble
marchioness
Maresfield
Margam
margin
margrave
marigold
mariner
marjoram
maritime
Markham
marker
marketable
Market Street
Marlborough
Marlow
marmalade
marmalot
marquis

M A W	M E L	M E T
marriage	maxim	melissuous
Mars	mayor	mellow
marshal	mayorality	melodious
Marshall's	mayor's	melody
marsh mallows	mazarine	meltable
martagon	mead	member
martial	meadow	memoirs
martingal	meagre	memorable
Martinmas	meal	memorandum
martyr	mean	memorial
martyrdom	Meander	memory
marvelous	meaning	menace
masculine	meanness	mendicant
mason	measurable	menial
masquerade	measure	metal
massacre	meawing	mercantile
master-piece	mazes	mercenary
mastership	meazly	mercery
massiff	mechanic	merchandize
mathematical	mechanically	merchant
mathematics	mechanism	Mercury
matins	medal	merciful
matrice	medallion	meridian
matricide	median	meridional
matrimonial	mediate	merit
matrimony	mediator	meritorious
matrix	mediatress	mermaid
matron	medicable	meriment
matrosses	medicinable	mells
matter	medicinal	message
mattock	mediocrity	messenger
matress	meditation	Messiah
mature	Mediterranean	messuage
maigre	meekness	metalline
maulkin	melancholic	metaphrast
mawkin	melancholly	metaphor
MAW-WORMS	meltiorate	meteor

M I S

M O R

N A R

metheglin	mismanage	Moses
method	misname	mosque
methodist	mispend	motherly
metropolis	misreckon	moveable
Michaelmas	mis-shapen	moulder
micrography	mistaken	mountain
micrometer	mistrust	mountebank
microscope	mistiness	mourner
midshipman	misuse	month
Midsummer	mittimus	muck-worm
mid-winter	mixen	muddiness
mightily	mixture	multiply
migration	mob	multitude
mildew	mock	muscle
mildness	model	Muscovy
millener	moderate	music
mimic	moderation	mushroom
mimicry	modelly	musket
mindful	modulation	mutable
mineral	moistness	mutation
Minerva	molestation	mutter
mingle	Moloch	mutton
miniature	moment	mutual
minion	monarchy	muzzle
minister	Monday	myriads
ministration	mongrel	Myrmidons
minuet	monkey	myrrh
miraculous	monochord	myrtle
mirror	monopoly	mysterious
mirch	monsoon	mysteriously
miscarriage	monument	mystery
miscellany	moor-hen	mytical
misconstruct	mope	mythological
misdoubt	moreover	mythologist
misfortune	morn	mythology
misgovern	Morocco	N
mislead	mortgage	Narcissus

N E W	N O M	N O T
narrative	Newcastle	non-appearance
nativity	Newmarket	non-compliance
natural	Newport	non-conformist
naturalize	Nicene	non-conformity
naughtiness	niceness	non-naturals
navigable	niehils	non-refistance
nauseous	St. Nicholas	nonsense
necessariness	nick-name	nonsensically
neccitious	nick-ninny	non solvent
neck-cloth	niece	nonfuit
necromancer	niggard	nook
needfulness	nighthingale	nooning
needle	night-raven	noose
negation	night-shade	Normal
negative	night-walker	Norman
negligence	nimble	Norroy
negotiator	nimbleness	Norse
neighbour	nineteen	north
neighing	ninety	Northallerton
neppure	twinty	Northampton
Neptune	nipberks	North-Bury
Nereids	niple	North-Church
nergal	nitrous	North-Chury
nerval	nitiness	northerly
nervous	nobleman	North Fleet
nestling	nobleness	North Foreland
Nessor	nocturnal	northward
Netherlands	noddy	Northwich
nethermost	noggin	Norton
nettle	noise	Norwich
never-more	noisiness	noſe
neutral	nomenclator	noſegay
Newgate	nomenclature	noſtill
newsels	nominal	noſtrum
Newark	nominate	notable
Newbury	nomination	notary
Newbridge	nomiative	notation

N U N	O B S	O C U
nothing	nunnery	obsequious
notification	nuptial	obsequies
notify	nurse	observable
notion	nurture	obervant
notional	nuisance	observation
notoriety	nutmeg	observer
notorious	nutrition	observatory
Nottingham	nutritive	observe
notwithstanding	nymph	obsolete
novel	nymphal	obstacle
novelist	O	obstinacy
novelty	Oahama	obstinate
November	oaker	obstreperous
novennial	oath	obstruct
nought	oatmeal	obstruction
novice	obduracy	obtain
novitate	obedience	obtrude
nourishing	obeisance	obtruder
nourishment	obelisk	obtrusion
now	obey	obviate
notious	objection	obvious
nubble	objector	occasional
rubbled	objuration	occult
nuciferous	oblation	occultness
nuddle	obligate	occupation
nudity	obligatory	occupier
nugatory	oblige	occur
nullify	oblique	occurrence
numberless	obliterate	ocean
numerable	oblivion	Okingham
numeral	oblivious	octangular
numerator	oblong	octavo
numerous	obnoxious	October
numscull	obscene	oögon
nunciature	obscenely	ocular
nuncupation	obscenity	ocularness
nuncupative	obscurity	oculist

O M E

O R A

O R T

odious	omen	oratory
odiously	ominous	orb
odor	omission	orbit
odoriferous	omnipotence	orchard
odorous	omnipresence	ordain
economically	omniscience	orderer
offend	onerate	orderliness
offender	opacity	ordinate
offensive	opacious	ordnance
offering	opakeness	ordinary
offerory	open-arse	ordination
office	operate	ordnance
officer	operation	ordure
officiate	operator	organ
efficient	ophthalmic	organical
officiousness	opiate	organist
off-scouring	opinion	organized
off-sets	opinionative	orient
offspring	opinionated	oriental
offentimes	opium	original
ogle	opponent	originalness
ogling	opportune	orison
oil-bag	opportune	Ork
oil-hole	opportunity	Orkney's
oiliness	opposition	Orlando
ointment	oppression	ornament
oilier	oppressor	ornamentals
Okcham	opprobrious	ornithologist
Okchampton	optic	ornithomaney
oker	optic-glass	Oroonoko
oldish	opulence	orphan
Olympiad	opulent	orphanism
Olympic	oracle	Orpheus
Ombrellay	oracular	oriment
ombre	orange	Orrey
Omega	oration	orrice
	orator	orthodox

O V E

P A L

P A R

orthogonal	overseer	Palatinate
orthographer	overshadow	palenets
orthographical	overture	p-lish
orthography	overture	Palladium
ositant	overwhelm	pallate
ositation	Ovid	palliation
osier	ounce	palmetry
Ostris	outlandish	palm-tree
Ostend	outward	palpable
ostensive	outlawry	palpitation
ostentation	outrageous	pally
ostentatious	outrun	paltry
ostler	outwardly	pamper
ostrich	outworks	pamphlet
Ostth	owler	pan
otherwise	owner	padada
Ottoman	Oxford	pan-cake
oval	oxygen	pander
ovation	oyer	Pandora
oven	oyez	panegyric
over-aft	ozier	pangs
over-balance		panic
over-bear	Paddington	pannel
over-board	paddle	pannier
over-charge	padlock	pant
over-clouded	padnag	pantaloons
over-done	Padua	panting
over-eat	paganism	Pantheon
over-fish	pageant	panther
over-grown	pagod	pantry
over-hastiness	pain	papacy
over-loaden	painful	papistry
overmatch	painter	pappa
overplus	paint	papinefs
over-power	painting	par
over-poss	palace	parable
over-reach	palatable	parabolical

P A S

P E C

P E R

paradise	passole	peculiar
paradox	passion	pedagogue
paragraph	passive	pedantic
parallel	Passover	pedigree
paralytic	passport	peevish
paramour	passime	peevishness
paraphrase	passy	Pegasus
parboil	passy-cook	pelican
parcel	patcher	pelt menger
parchment	patch box	penal
pardon	patentee	penance
parentage	pathetic	pence
parenthesis	patience	pencil
parley	patientness	pendant
parliament	patriarch	pendulum
parliamentary	patrician	penetrable
parlour	patrimonial	penetrate
parochial	patrimony	penetration
parole	patriot	peninsula
paricide	patroisim	penitent
party	patrol	pen-knife
parthomy	patron	pennyless
parley	patrenage	pennyroyal
parship	patronize	Pensance
Parson	patty	person
partake	pave	personary
partial	pavilion	pensiveness
participate	pause	pentateuch
particle	pawn	Pentecost
particular	pawn broker	penurious
parting	payable	pepper
partisan	payment	peradventure
partnership	peacock	perambulation
partidge	peasant	perceive
passable	pebble	perception
passage	peccavi	perch
passenger	pectoral	percolation

P E R

P H Y

P O S

perdition	pervere	pierce
perdurance	perflit	pigmy
pergrination	personable	pilchard
peremptory	personage	plant
peremptorily	personality	plantations
perennial	personate	pleasure
perfect	perspective	pliant
perfection	perspicuity	plough
perfidious	perspicuous	plumb
perfidy	perspiration	plunder
perforce	persuasive	poach
perform	persuasion	pocket
performe	persuavencels	poetry
perhaps	pertain	poignant
perieranion	pertinacious	political
perilous	pertinence	politician
period	pertinent	polisher
peripatetic	pertingent	polite
periphrastically	perturbation	polling
perish	perade	polygamy
perjure	perverse	polygraphy
perjury	pervert	pomander
periwig	Peruvian	pommel
periwinkle	pestilence	pompous
permanent	Peterborough	pond
permission	petrification	ponderous
permit	petifogger	potifcate
pernicious	petulancy	pope
perpendicular	phantastical	porcupine
perpetrate	Philologer	pork
perpetual	philosopher	porter
perpetuity	phlebotomize	positive
perplex	phlegmaticness	possession
perquissites	Phosphorus	postage
Perusa	phrase	posterior
persecute	physic	posthumous
perseverance	physiognomy	posture

P U N

P U T

Q U A

potentate	punic	putty
practicable	punish	puzzle
pragmatical	punishment	pybald
praise	puppet	pye
preacher	puppy	pygmy
precarious	purchind	pyramid
precedence	purchase	pyramidal
predelinate	pureness	pyramidioid
pre-eminence	purgation	pyromancy
preference	purgatory	pyrotency
pregnance	purgation	Pythagoras
prejudication	purification	Pythagorean
prelate	purling	Q
premature	purlain	Quadrangle
prenomination	purport	quadrangular
preposterous	purpose	quadrant
presbyterian	purring	quadrantal
public	purser	quadrat
puerility	purshain	quadratrix
puffing	purshance	quadrinomial
puissant	purshuit	quadriraportion
pulchritude	purshuivant	quadrirhythable
pullet	purvey	quadrivinal
pulpit	purveyance	quadrupedal
pullation	purulent	quadrupedes
pulverization	push pin	quadruple
pumice	pusillanimity	quadruplication
pummel	pus	quaesser
pumpkin	pusulous	quail
punch	put	quaint
punchanello	putanisms	quaintly
punchion	putid	quaintness
punctilio	putter	quake
punctuation	putrefaction	quaker
puncture	putrefe	quakerism
pungency	putrid	qualification
pungier	putridness	qualify

Q U E

Q U O

R A N

R

quality	questionist	Rabbi
qualm	questionless	Rabbin
qualmishness	questor	rabble
quantity	quibble	race
quarrel	quick	racket
quarreller	quicken	rackoon
quarrelled	quickly	radiancy
quarrellsome	quickness	radiant
quarry	quickstand	radicalness
quart	quickset	radical
quartan	quick-silver	radicate
quarter	quick-sighted	raddish
quarterer	quiddany	radius
quarterly	quiescent	raff
quarter-master	Quintius	raffle
quarter-sections	quiet	rage
quatern	quieter	rag-bolt
quarter-staff	quietist	raggamuffin
quarto	quietly	ragged
quash	quietness	rag-man
quaver	quill	ragoe
queen	quilt	rail
quer	quince	railery
querness	quinsy	rain-bow
quell	quint	rain-deer
queller	quintain	raise
quench	quintessential	rake
quencher	quintal	rakish
querist	quintessence	ramble
querk	Quintilian	ramage
querulous	quire	Ramith
query	quirister	rammer
quest	quit	rancour
quest-man	quite	random
question	quiver	ranger
questionable	quoted	rankels
questionableness		

R E A	R E C	R E G
rankly	reaper	recommend
ransom	rear-guard	recommendation
ransomer	reason	recompense
rapacious	re-assemble	recompose
rapid	re-assign	reconcile
rapine	re-assume	record
raparee	rebate	recorder
rapfody	rebel	recover
rapture	rebellious	recoverable
rarely	rebound	recount
rarity	rebuff	recreate
rascal	rebuild	recruit
rascally	rebuke	redify
rash	recall	refor
rashness	recant	refractory
razor	recapitulate	recumbence
ratania	recede	recumbent
rather	receivable	recurrent
ratification	receiver	reddish
ratific	recent	redem
rational	recentness	re-deliverance
rats-bane	recels	ridiculous
rattle	recipe	redouble
rattle-snake	reciprocal	redound
ravellin	recital	reduction
raving-mad	recitativo	redundant
ravisher	recite	re-establish
ravishment	reciter	reference
raze	reckoning	refinement
reach	reclaim	reflexion
readiness	recline	reformation
re-admission	recognition	refresh
real	recognize	refuge
realize	recognizer	refusal
realm	recoil	regain
re-animate	recollect	regard
re-ascend	recompente	regeneration

R E S

S A L

S A T

regiment
region
regifter
regret
regular
rehearse
reject
reign
re-imbark
rejoin
rejoice
relation
release
relent
relief
religion
reluctant
remain
remarkable
remedy
remember
remic
remnant
remonstrate
remorse
rencounter
rendezvous
renounce
renown
rent
repair
reply
reprint
reproach
reproof
repute
resemble

resolve
resolute
resort

rheumatism

rich

riddle

ride

river

rogue

Rome

royal

rude

S

Sabines

sable

sack-cloth

sacrament

sacred

sacrifice

sacrilege

sable

sadden

saddle

Sadducee

safe-conduct

safeguard

saffron

sagacious

sagely

sainfoin

salamander

salary

sale

salesman

salsique

Salisbury

saliva

salivate

sally-port

salmigundy

salmon

Saltnash

salter

salt-petre

salvage

salubrious

salver

salvo

salutary

Samarita

Samaritan

Samech

sapphire

sampler

sanctification

sanctimony

sanction

sanctuary

sand-bag

sand blind

sand-eels

sandin

sandy

sanguine

sawyer

scepticisms

scurband

Saracen

sarcasms

sarcasmically

sarsenet

sassafras

Satan

satchel

K k

S C A

S C R

S E E

faellites	farlet	ferutizize
faerate	scatter	feulk
fatiated	scavenger	feull
faissfaction	scene	feullion
fatisfy	septic	sculpture
fatin	septer	feum
Saturday	scheme	feurilous
Saturn	schism	feurivels
Saturnine	scholar	feutcheon
fatyr	scholiast	feysaitar
fatyricaly	school	Scythia
fatyrift	schoolman	scythe
favagencis	science	sea-chart
fauce-box	scimeter	sea-faring
faucer	scholift	sea-green
faucinefs	sciffors	seal
faufage	scoffers	seamfter
faue-ill	scold	sea-port
faving	scollop-shell	searck
faviour	seonfe	searck-cloth
faunter	seorbuitic	seafonable
favor	score	Sebastian
Barony	scornful	secession
scab	scorpion	secondarily
scabbard	Scotland	secret
scabbinefs	seoundrel	secretary
scaffold	scraggy	sect
scalding-hot	seramble	section
scalp	serap	securencis
scandal	seraper	sedan
scandalous	seratches	sedate
scantincis	sevak	sediment
scar	scribe	seditious
scarraumont	scriptural	seducer
Scarborough	scripturist	seduction
scarcity	scrivener	seek
scare-crow	serupulous	seem

S H E

S I M

S P E

seen	shew-bread	simper
seize	shield	simpleton
seldom	shifter	simulation
select	shilling	sincerence
self	Shiloh	sinewinefs
selfish	shin-bone	singlenefs
self-evident	shingle	singularity
femicolon	shipwreck	sincenthly
feminal	shitten	ſkepticalnefs
femi-vowel	ſittle-cock	ſkilfulnefs
ſenate	ſhop-keeper	ſkininggrave
ſenior	ſhop-ſifting	ſkirmiſher
ſen-night	Shoreham New	ſkittiſhnefs
ſenſation	ſhort-ſighted	ſky-coloured
ſenſe	ſhoulder	ſlab
ſenſitive	ſhoulder-knot	ſlanderous
femicle	ſhrawarden	ſlawiſhnefs
ſend	ſhrewdly	ſleevelefs
ſenſory	ſhrivelled	ſlighenefs
ſent	ſhrubbinefs	ſliperinefs
ſentence	ſhinefs	ſloe-worm
ſhallow	ſicilian	ſlothfulnefs
ſhaloon	ſicily	ſluggard
ſhambles	ſicknefs	ſnactymunus
ſhame-faced	ſide-board	ſmitter
ſharp	ſeling	ſnap-dragon
ſharper	ſightlefs	ſneakingnefs
ſharp-ſighted	ſignal	Socineanifm
ſhatter	ſignet	ſolemnization
ſhaver	ſignification	ſolitude
ſhear-man	ſignify	ſonger
ſheepiſhnefs	ſilencefs	tophical
ſheſt	ſillabub	ſordid
ſhepherd	ſillinefs	ſpacious
ſhepherdels	ſilverton	ſpangle
ſheriff	ſilver-smith	ſpaniard
ſherry	ſimonical	ſpeaker

S P R	S T A	S T R
specific	spread	stable
spectator	spring	stack
speech	spright	Stafford
Sphinx	spring	stage
spinage	spring-tide	stagger
spinal	sprinkle	stagnant
spinet	sprout	stagnate
spinner	spruce	stagyrice
spinster	sprung	staid
spire	sprunt	stain
spirit	sque	stairs
spiritual	spon	stake
spit	sponge	stale
spitting	spur	stalk
spiteful	spuriousness	stall
spittle	spurn	stamp
splash	spy	stanch
spleen	squab	stand
splendid	squabble	standish
splendor	squadron	stang
splice	squallid	stank
spit	squander	stanza
spoil	square	staple
speak	squarrels	stashboard
spoliation	squash	starch
spontaneous	squat	stare
spoon	squamous	starry
sport	squawl	stark
sportful	squeak	stave
spot	squal	stave
spotless	squamous	stateroom
spouse	squeeze	stationer
spout	squib	statue
sprain	squint-eyed	statute
sprat	squire	stay
sprawl	squire	stead
spray	stab	stetal

An English Spelling Dictionary.

A T O

S T R

S U T

Aram	Arrop	Aruggle
Aedraht	Arop	Arumpet
Aeed	Aore	Aung
Aeel	Aork	Aubbora
Aeeple	Aorma	Auck
Aeer	Astory	Aud
Aem	Arove	Audent
Aench	Aout	Audy
Aep	Atraddle	Auff
Aep-father	Atragle	Aumble
Aep-mother	Atraght	Aupendous
Aeril	Atrain	Aupid
Aerling	Arait	Aupify
Aern	Arake	Aypicnefs
Aew	Arand	Aubation
Aeward	Arange	Aubalera
Aickle	Aranger	Aub-confequence
Aff	Arap	Aubvifion
Aiffe	Araw	Aubue
Aigmatical	Aray	Aubjection
Aile	Aream	Aubjunctively
Aimulate	Areet	Aublieutenant
Aing	Arength	Aublimation
Aink	Arenuous	Aubmerfon
Aipend	Arefs	Aumiffion
Aipulate	Aretch	Aubordiate
Air	Aridnefs	Aubfcription
Airrup	Aride	Aubfervientnefs
Aitch	Arief	Aubftantialefs
Aiver	Arike	Aubterraneous
Aock	Aring	Aubtraction
Aockings	Aripe	Aucefsfulnefs
Aoic	Arive	Auculentnefs
Aole	Arove	Aucumbent
Aomach	Arole	Audorifcence
Aood	Arong	Aufficientnefs
Aool	Aruck	Auffumigation

S Y M

T A N

T B R

suableness	sympathize	tapestry
sulphurous	symphony	tapester
sumptuousness	symptom	target
superabundance	synagogue	tarish
supereminence	synod	tart
superficialness	synodical	tartane
superfluities	synonymous	Tartar
superintendant	synopsis	Tartary
superlativens	synax	taskless
supernumerary	synthetical	tatterdemalion
superstitiousness	syringe	tattoo
suppletory	syrup	taverner
supportableness	system	tauntingly
suppressor	T	tautalogical
supramundane		tautology
supremeness	tabernacle	tawdry
sureness	tabular	tazation
surgeon	tacking	teachable
surpassing	tailor	teasm
surround	Talbot	tediousness
suspect	tale-bearer	telescope
sustenance	tailor	temperate
swagger	talkative	tempest
swarm	tallow	templar
swear	Tallow-down	temple
sweep-stake	tally-man	temporal
sweet-heart	Taloud	temporize
scept	Talmoudical	tenable
swimmer	tamarind	tenacious
switch	tamely	tenantable
Switzerland	Tamamuz	tenderly
swordsmen	tamper	tenderless
sycephane	Tamworth	tenement
syllabically	Tangier	Tenriff
symbolical	takard	tent-wort
symmetry	tantalize	terragant
sympathetic	tautiv	termination

T H R

T O O

T R A

teraqueous

thrasher

topaz

terrestrial

threabare

toper

terrible

threecfold

topet

terrific

thresher

topography

territory

throng

topple-stave

terror

throatle

torment

testaceous

thrower

torrent

testament

Thesmania

torrington

testile

Thursday

torture

testimonial

thwart

tory

testinels

ticking

Totent

Teutonic

tickle

touch-stone

texture

tick-tack

toughly

Thames

tidinge

tournament

thankfulness

tighness

toward

theatre

Tibury

township

theme

tillage

trackable

Theocracy

tilt-boat

trackate

theologian

tilt-yard

tracksmen

thereafter

timberl

tradition

theropon

timorous

traduce

thermometer

timorousness

tragi-comedy

thickens

tinker

tragicall

thicket

tinsel

train-bands

Thickens

tirewoman

traitorous

thief

titillation

tranquillity

thievishness

tit-mouse

transaction

thimble

tobacco

transcend

thinker

together

transcribe

thirshness

toilsome

transfer

thistle

toilfulness

transfiguration

thornback

Toledo

transgress

through

tolerable

transgressor

thoughtful

toleration

transient

thousand

tongue-ty'd

transmission

thrashdom

tooth-ach

translusion

thrashdom

toothsome

transmigration

T U M

V A R

V E R

transfutable	Tubridge	vaſſal
transparent	turnpike-gate	vaſt
transpiration	Twced	vaulter
transpire	typographical	vaunt
transplant	typographically	veal
transport	typographer	vegetable
transporter	typography	vehemence
transpoſe	tyrannical	vehicle
transpoſer	tyrannicalneſs	velocity
transpoſition	tyrannize	velvet
tranſubſtantiation	tyrant	venal
tranſverſe	tyranny	venerable
trath	tyro	veneration
traveller	V and U	venery
treacherous	Vacuum	vengeance
treachery	vagabond	venial
treasonable	vagary	Venice
treasurer	vagrant	venom
tremble	vain-glorious	venomous
trepanner	valetudinary	ventilation
trepidation	valiant	venturous
trepidity	valid	Venus
tribulation	validity	veracity
tribunal	valorous	verb
trickiſh	valuable	verbal
triennial	Vandal	verbatum
triflingly	vane	verberate
trigonometry	vanish	verbosity
Trinitarians	vanity	verdant
Trinity	vanguish	verdigrise
Trigoly	vapour	verditer
troublesome	vapouring	verdure
Tuillesies	variable	verger
Tukeſbury	variance	verjuice
tuſip	variation	vermicular
tumour	variety	vermillion
tumorous	varlet	vermin

V I C

V I O

V I Z

vernal	vice-gereat	violencello
verse	vice-roy	viper
versicle	viciſtrude	virgo
verification	victim	virgin
verse	victor	Virginia
vertex	victoriously	virginity
vervain	victory	virility
very	victualler	virtual
vesicle	victuals	virtuoso
vespers	Vienna	virtuously
vessel	view	virulency
vest	vigilant	virulent
vesta	vigorous	virulently
Vestal	vigour	vilage
vestible	vileness	viscount
vestiger	village	viscountess
vestment	villager	visibilty
vestry	villainous	vibblenets
vesture	villainously	visible
vetches	villainy	viscer
veteran	vincible	vison
veration	vindication	visit
veracious	vine	visitation
ver	vineyard	visal
ugly	vinegar	vital
ugliness	vient	vitiate
vial	viatage	vitious
viands	vintner	vitiousness
vibrate	vintress	vitreous
vibrating	vintry	vitric
vibrations	violable	vivace
vicar	violate	vivacious
vicarage	violation	vivacity
vice	violence	vivid
vicious	violent	vivify
vice-admiral	violentness	viven
vice-chancellor	viola	visard

U N B	U N D	U N H
ulcerate	unburton	undivided
ulceration	uncapable	undoubted
ulcerous	uncertain	undress
ullage	unchangeable	unduly
ulterior	uncharitable	undutiful
ultimate	unchaste	uneasy
umber	unchristened	uneloquent
umbrage	uncivil	unemployed
umbrella	unclasp	unequal
umpire	unclean	unexecuted
unacceptable	uncomfortable	unexpelled
unaccountable	uncommonly	unexpressible
unacquainted	uncommon	unfairly
unactive	unconcerned	unfaithful
unadvised	unconceivable	unfashioned
unaffected	uncondemned	unfeigned
unalterable	unconquerable	unfenced
unanimity	unconquered	unfinished
unarrayed	unconstant	unformed
unassisted	unconstrained	unforeseen
unattentive	uncorrected	unfortified
unattainable	uncover	unfortunate
unavoidable	uncourteous	unfound
unawaked	uncrowned	unfriendly
unawares	unction	unfruitful
unbecoming	uncultivated	ungainful
unbelief	uncustomed	ungentlest
unbeliever	undaunted	ungird
unbend	undisfiled	ungodliness
unblamable	undermine	ungovernable
unblind	understand	ungracious
unboiled	undertake	ungrateful
unbound	undervalue	unhandsomely
unbowl	under-written	unhandy
unbridled	undeserved	unhappily
unbuit	undetermined	unhappy
	undisciplined	unhaboured

U N O

U N S

U N T

unharmed	unorderly	unseparable
unhealthy	unpaid	unshaded
unhealthy	unparalleled	unshaken
unheard	unpardonable	unshaven
unhorse	unpeople	unshod
unicorn	unperceivable	unskilful
unison	unpleasing	unsared
universe	unpolished	unsociable
unjust	unpoll	unsolder
unkind	unprejudiced	unsolid
unknown	unprevented	unsound
unladen	unprofitable	unspeakable
unlamented	unprosperous	unsent
unlawful	unprovided	unsported
unlearn	unpunished	unsteady
unlearned	unpunished	unstirred
unleavened	unpurged	unstop
unlicensed	unquenched	unstring
unluckiness	unquiet	unsuccessful
unlimited	unravel	unsuitable
unload	unready	untaken
unloose	unreasonable	untamed
unmanly	unregarded	untangle
unmarried	unrelenting	untanned
unmatch	unremoved	unteachable
unmeasurable	unrepaired	untenable
unmetness	unresolved	unthankful
unmerciful	unrespectful	unthinking
unmindful	unrevengeful	unthoughtful
unmolested	unrewarded	until
unmovable	unrighteous	untilled
unnatural	unruly	untimely
unnecessary	unsaddle	untoward
unnatural	unsafe	untractable
unneeded	unsatisfactory	untried
unoccupied	unfavorable	untrue
unopposed	unsealed	untrust

Y O U

W A I

W A S

unvail	vow	waitward
unusual	vowel	whetful
unusually	voyage	Wales
unwarily	upraid	wall
unwary	uproar	wallet
unwashed	upside	wallop
unwashed	upstart	wallow
unwatered	upward	wallowish
unwearied	urge	walnut
unweariedness	urgent	Walton
unwelcome	urinal	wamble
unwholesome	urine	wander
unwholesomeness	urn	wanton
unwieldiness	Ursulines	wantonness
unwilling	usage	war
unwind	use	Warbridge
unwise	usher	warden
unworn	usual	wardenship
unworthy	usurp	wardmore
unwritten	usurpation	wardrobe
vocabulary	usurer	Ware
vocal	utensils	warfare
vogue	utmost	weariness
voice	Utopian	warra
void	utter	warmacks
voidness	vulnerable	warrant
volacious	vulnerable	warren
volatile	vulture	Warsop
volubly	uvula	Warwick
volume	uxorious	wash-bowl
voluntary	uxoriously	wasps
voluminous	uxoriousness	waspsishly
vomit	vizzia	waspsishness
votary	W	wasel
votive	Waggoner	wasslets
voucher	waincot	wast
vouchsafe	waiter	waste

W E A

W E I

W E Y

wastefully

wean

weightiness

watch

wearing

weighty

watcher

weapon

Welch

watchet

wear

welcome

watchful

wearied

welcomeness

watchfully

wearily

weld

watchfulness

wearing

welkin

water

weariness

well a-day

water-measure

wearisome

well-born

water-poise

weary

well-bred

waterage

weasand

well-hole

watergang

weasal

well-set

waterish

weather

wolt

wateriness

weather-board

welter

watery

weather-cock

wemb

wattle

weather-glass

wen

Watton

weave

wench

wave

weaver

wencher

waveringly

web

wendover

wavy

webster

wealock

wawl

wed

went

wax

wedding

wept

waren

wedlock

were

way

Wednesday

Wermouth

wayfaring

weed

were-wolf

waylay

weeder

weland

waylayer

week

welleriness

wayward

weekly

westerly

way-wiser

weel

western

we

ween

Westminster

weak

weep

Westmoreland

weaken

weeper

Westphalia

weakly

weeping

westward

weakness

weevil

wetness

weal

weigh

wet-shod

weald

weight

wetted

wealth

weightily

wey

W H I

W H O

W I L

whale	whiggishness	whoo
wharf	whiggish	whore
wharfage	while	whoredom
what	whilom	whoremonger
wheel	whiff	whorish
wheat	whim	whorishly
wh eaten	whimsical	whorishness
wheel	whip	whole
wheelier	whipper	whole-soever
wheel	whipper	why
wheelage	whirl	wicked
wheelbarrow	whirligig	wickedness
wheeler	whirl-pool	wicker
wheelwright	whirl-wind	wicket
whelm	whisk	widg
whelp	whisker	widely
whelpish	whisper	widen
when	whisperer	wideness
whence	whist	widow
where	whistle	widower
whereas	whistler	widowhood
whereby	whit	width
wherefore	whiten	wield
wherein	whiteness	wieldness
whereof	whiting	wieldy
wheresoever	whitish	wife
whereto	whitlow	wig
whereupon	whither	wight
wherewith	WhitSunday	will
wherry	WhitSunday	wilderness
what	whittle	wildfire
whether	who	wilding
they	whole	wildly
theyish	wholly	wildness
which	wholesome	wile
whiff	wholesomeness	wilful
whig	whosoever	wilfully

W I S	W O N	W O R
wisfulness	wisfully	wood
wisly	wisp	wooden
wily	wist	woodenly
will	wit	woodmonger
willing	witch	woodpecker
willingly	witchcraft	woodroof
willingness	with	woodrind
willow	withal	woodward
wimble	withdraw	woody
wimple	wither	wool
wince	with-hold	woollen
winch	with-holden	woolly
wind	withn	Worcester
wind-bound	without	word
winder	withstand	work
windfal	witnens	worker
Windham	Witney	workman
winding	wizard	workmanlike
windlafs	wo	workmanship
windlefs	woad	world
window	woe	worldly
windward	woer	worm
wine	weful	worm-eaten
Winifred	wofully	wormwood
wing	wofulness	worn
winged	wolf	worse
wink	wolwith	worship
winnow	woman	worshipful
Winter	womanishness	worshipfully
winter-green	womanly	worshipper
winterly	womb	worth
wipe	won	worked
wire	wonder	wort
wisacre	wonderful	worth
widom	wonderfully	worthily
wife	wonderfulness	worthless
wife	wont	worthy

W R I

Y E L

Z O Y

wot	writhen	yelp
wove	written	yeoman
would	wrong	yeomanry
wound	wrongful	yule-time
woundy	wrongfulness	Z.
wrangle	wrongfully	Zacharias
wrangles	wroth	Zagay
wrap	wrought	Zany
wrapper	wrung	zeal
wrap	wry	zealot
wrath	wryly	zealous
wrathful	wry-necked	zealously
wrathfully	Y	zealousness
wrathfulness	Yatch	Zechariah
wreak	yap	zedoary
wreath	yar	Zeland
wreck	yard	Zelotes
wren	yare	zenith
wrench	yarn	Zephyrus
wrest	yaspin	Zereth
wrestler	yaw	zest
wrestling	yawl	Zell
wretch	yawn	Zeugma
wretchedly	yea	Zink
wriggle	year	zodiac
wright	yearling	zone
wring	yearly	zoography
wrinkle	yeast	zoology
writ	yelk	zootomy
write	yell	zoophyte
writer	yellowish	Zouch
withe	yellowishness	

A Table of the most familiar Proper Names of Men
and Women.

A

Abel
Abraham
Alexander
Ambrose
Andrew
Anthony
Arthur
Austin
Augustus

Giles
Gilbert
Gregory

Nathaniel
Nehemiah
Nicholas

H

Henry
Horatio
Hugh
Humphrey

Oliver

P

Patrick
Philip
Peter

R

Jacob
James
John
Jeffrey
Jeremy
Jonathan
Joseph
Josias

Ralph
Raphael
Raymond
Richard
Robert

B

Barnaby
Benjamin
Bernard

C

Cesar
Charles
Christopher
Clement
Constantine

Roger
Roland

S

Isaac
Joshua
Jude

L

Lambert
Lancelot
Laurence
Lewis
Luke

Samuel
Samson
Simon
Solomon

T

Edmund
Edward
Eleazar
Elias

Theodore
Theodosius
Theophilus
Thomas

M

Mark
Martin
Matthias
Matthew
Maurice
Michael
Moses

Timothy
Toby

V

Ferdinand
Francis
Frederick

Valentine
Vincent
Urban

G

Gabriel
George

N

Nathan

Z

Zachary

A	Abigail	Dorothy	E	Magdalen	M
	Alice	Eleanor		Margaret	
	Agnes	Elizabeth		Margery	
	Amelia	Ethel	F	Marianne	
	Ann	Flora		Mary	
	Arabella	Flavia		Martha	
B	Barbara	Frances		Maud	P
	Beatrice		G	Penelope	
	Betty	Gertrude		Phyllis	
	Bridget	Grace	H	Priscilla	
C				Prudence	R
	Caroline	Hellen			
	Catherine	Henrietta	I	Rachel	
	Cecily			Rebecca	
	Charlotte	Jane		Rosamond	S
	Christiana	Joan		Rose	
	Christian	Indian			
	Cleopatra	Isabel		Sarah	
	Constance	Judith	L	Sophia	
D				Sufanna	T
	Damaris	Laura			
	Daphne	Louisa		Theresa	U
	Deborah	Lucilia			
	Diana	Lucy		Ursula	X
	Dinah	Lucretia			
	Dido	Lydia		Xantippe	



